

AIR-7/8

SERVICE MANUAL



AIR-7:
Canadian Model
AEP Model
E Model

AIR-8:
US Model

SPECIFICATIONS

Circuit system	AIR/PSB/AM: Dual conversion superheterodyne FM: Superheterodyne	
Frequency range	AIR: 108–136 MHz PSB: 144–174 MHz (Canadian and AEP-2 models of AIR-7, AIR-8) FM: 76.0–108.0 MHz AM: 150–2,194 kHz LW: 150–530 kHz (150–529 kHz*) MW: 531–1602 kHz (530–1600 kHz*) SW: 1602–2194 kHz (1601–2194 kHz*) * MW tuning interval: 10 kHz	Battery life
Antennas	AIR/PSB/FM: Helical antenna MW/LW/SW: Built-in ferrite bar antenna External antenna jack AIR/PSB/FM: BNC connector AM (LW/MW/SW): minijack	Dimensions
Speaker	Approx. 7 × 3.5 cm (2 7/8 × 1 3/8 inches)	Weight
Power output	400 mW (at 10% harmonic distortion)	
Output	Earphone jack (minijack)	
Power requirements	6 V dc Four IEC designation R6 batteries (size AA) (for radio/computer back-up) BP-23 rechargeable battery pack (optional) DC IN 6 V jack accepts: Appropriate ac power adaptor listed on page 2 for use on house current DCC-127A or DCC-120 car battery cord (optional) for use with 12 V car battery DCC-240 car battery cord (optional) for use with 24 V car battery	EBP-6 battery case (optional) using four IEC designation R14 batteries (size C) Approx. 9 hours for air band, PSB and AM reception Approx. 10 hours for FM reception When listening for four hours a day at normal volume, using Sony SUM-3(NS) New Super batteries Approx. 90 × 179 × 50 mm (w/h/d) (3 1/8 × 7 1/8 × 2 inches) including projecting parts and controls, not including the helical antenna Approx. 600 g (1 lb 5 oz) including batteries, shoulder strap and the helical antenna

Note: There are two types of AEP model. These differences are as follows.
 AEP-1: 3 bands (AIR, AM and FM)
 AEP-2: 4 bands (AIR, PSB, AM and FM)

AIR BAND/FM/AM PLL SYNTHESIZED RECEIVER
PSB/AIR/FM/AM PLL SYNTHESIZED RECEIVER

SONY®



HOUSE CURRENT

Where used	AC power adaptor	Input voltage of adaptor
Canadian	AC-9	120 V ac, 60 Hz
AEP	AC-456C	220 V ac, 50 Hz (110 V ac adjustable, 50/60 Hz)
E	AC-4A	110, 120, 220 or 240 V ac adjustable, 50/60 Hz
US	AC-12	120 V ac, 60 Hz

FEATURES

- The AIR-7 and AIR-8 portable receiver receives the air traffic control frequencies, 108–136MHz, as well as standard FM and AM broadcasts. With Canadian, AEP-2 models of AIR-7 and AIR-8, PSB (144–174MHz) can also be received.
- The quartz controlled PLL (Phase Locked Loop) synthesizer system uses a microcomputer to make pinpoint tuning easy. The tuned frequency is displayed digitally.
- Choice of direct, scan, manual or memory tuning.
- Up to 40 (Canadian, AEP-2 models of AIR-7 and AIR-8) or 30 (AEP-1, E models of AIR-7) stations can be memorized so that they can be tuned in at the press of a key.
- Air band and PSB can be received more easily with the memory scanning, program function, priority function and delay function.
- Squelch control to suppress noise while tuning and during intervals between communications.
- The key protect function operates at the press of a key to lock the keys on the front face so they cannot be operated by accident.
- Helical antenna for high sensitivity and selectivity has BNC connector for attachment to the receiver.
- Four different power sources: batteries, house current, rechargeable battery pack or car battery.

* PSB (Public Service Band)

On the PSB, you can monitor police, fire, forestry conservation, VHF weather, marine, highway maintenance, land mobile, and other public safety radio services. The general frequency allocation is shown on the dial scale.

NOTICE: In certain localities, it is illegal to listen to police or other governmental transmissions. Check with your local authorities.

MELF (Metal Electrodes Face-Bonding) Components

Warning

If MELF components are forcibly removed from the printed circuit board with pincers or pliers, the circuit board pattern is likely to peel away. Always remove MELF components according to the procedure described on the next page.

MELF components are soldered directly to the surface of the printed circuit board.

MELF resistors and capacitors have the same dimensions and are distinguished by their background colors: light brown for resistors, and pink or light green for capacitors.

The MELF resistor color coding is the same as for conventional resistors, and MELF capacitor color coding is the same as for tube-type ceramic capacitors.

Components larger than resistors and without a color code are cross conductors, which are used instead of jumper wires.

1. Structure

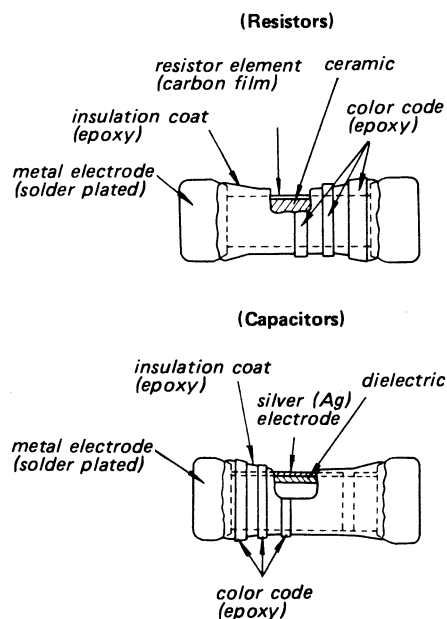
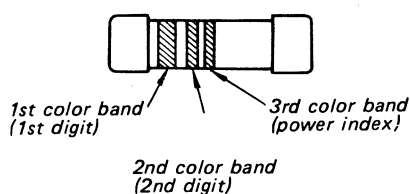
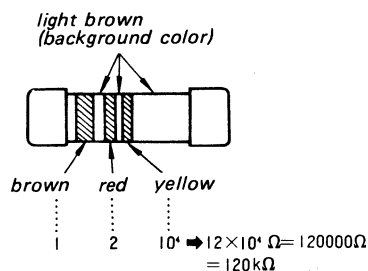


Fig. 1

2. Color Code Reading



(Example of Resistor)



(Example of Capacitor)

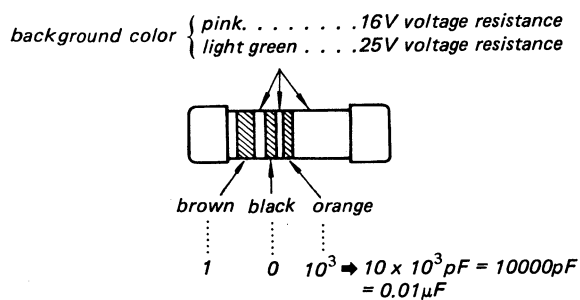


Fig. 2

3. How to Remove MELF Components and Mount Replacements

Use a soldering iron of at least 40W with an iron tip 4 mm in diameter and file the tip down to the angle shown in the diagram.

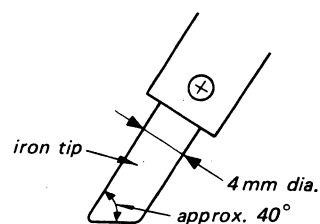


Fig. 3

1. Bring the flat surface of the soldering iron in equal contact with both soldered ends of the component.
2. The solder should melt in about 4 seconds. (The solder will melt more readily if a small amount of solder is attached to the iron tip and the iron tip is placed against the component.)
3. Once the solder has melted, tap the component aside with the tip of the soldering iron, and remove it from the board.

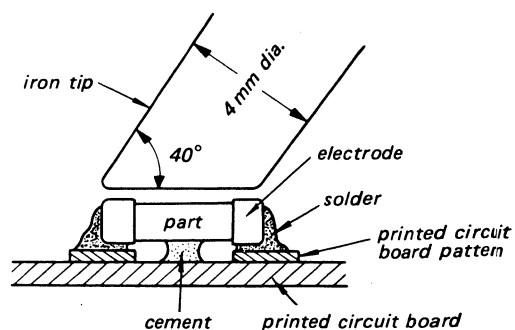


Fig. 4

4. Use lead type resistors to replace the MELF components. This replacement may be mounted with short leads (see Fig. 5).

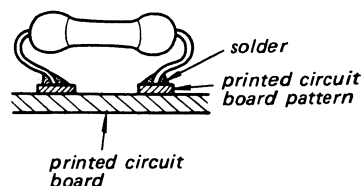


Fig. 5

Note: Use 3216 type chip components to replace the MELF capacitor components.
See page 4 for mounting of chip components.

Replacing chip components

All chip components should be connected and disconnected, using a tapered soldering iron [temperature of the iron tip: less than 280°C (536°F)], a pair of tweezers and braided wire.

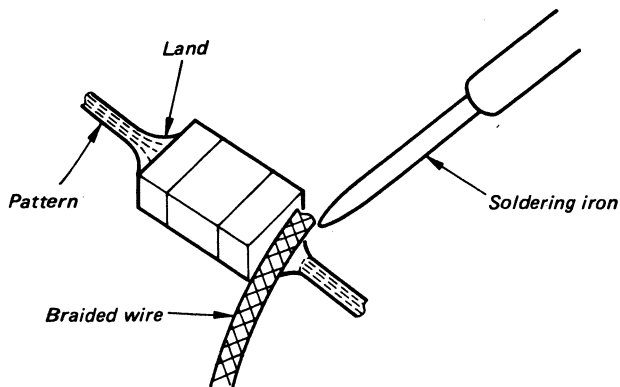
Precautions for replacement

1. Do not disconnect the chip component forcefully. Otherwise, the pattern may peel off.
2. Never re-use a disconnected chip component. Dispose of all old chip components.
3. To protect the chip component, heating time for attaching the component should be within 3 seconds.

○ Removing chip components

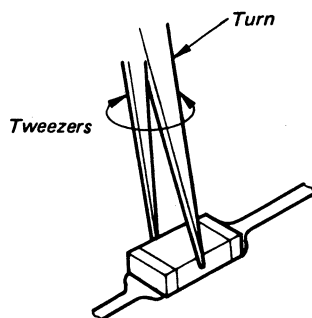
(1) Removing solder at electrode

Remove the solder at the electrode, using a thin braided wire. Do not remove the solder of the part (chip component) attached adjacent to the electrode.



(2) Disconnecting chip components

Turn the tweezers with the soldering iron alternately applied to both electrodes, and the chip component will be disconnected. Take careful precautions while disconnecting, because if the chip component is forcefully removed the land may peel off. Never re-use a disconnected chip component.



(3) Smoothing the soldered surface

After disconnecting the chip component, remove the solder by using a braided wire to smooth the land surface.

○ Connecting chip components

The value of chip components is not displayed on the main body. Take due precautions to avoid mixing new chip components with other ones.

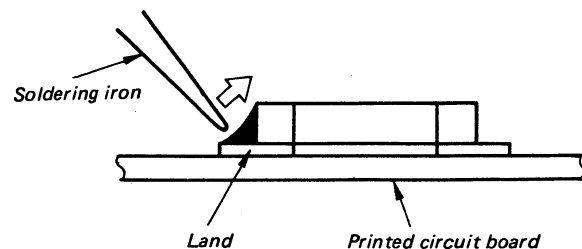
(1) Applying solder to land on one side

Apply a thin layer of solder to the land on one side where the chip component is to be connected. Too much solder may cause bridging.



(2) Speedy soldering

Hold the chip component at the desired position, using tweezers, and apply the soldering iron in the arrow-marked direction. To protect the chip component, heating time should be within 3 seconds.



(3) Speedy soldering of electrode on the other side

Solder the electrode on the other side in the same way as in (2) above.

—SERVICING NOTE—

Note on Parts Replacement

This set uses MELF components. To increase the mounting density of components on PC board, the land where MELF component is to be connected is common to the land where ordinary component is to be connected.

Accordingly, when removing the ordinary components, the MELF component will be also removed. Be sure to solder MELF components when replacing the parts.

Note: The MELF components are secured with locking compound.

Note on Variable Capacitance Diodes Replacement in Antenna Tank Circuit and First Local Oscillator VCO Circuit

Variable capacitance diodes in antenna tank circuit and first local oscillator VCO circuit have the same voltage-capacitance characteristic.

- FM/AM/PSB band
D6, 7, 14, 15, 16, 17, 205, 206, 207: 1T33 (to be same characteristic)

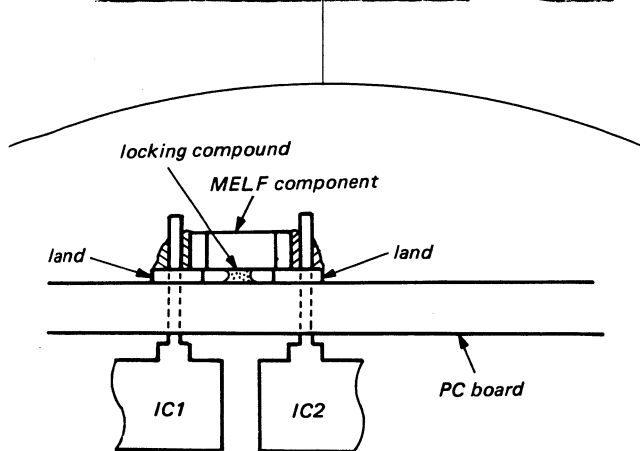
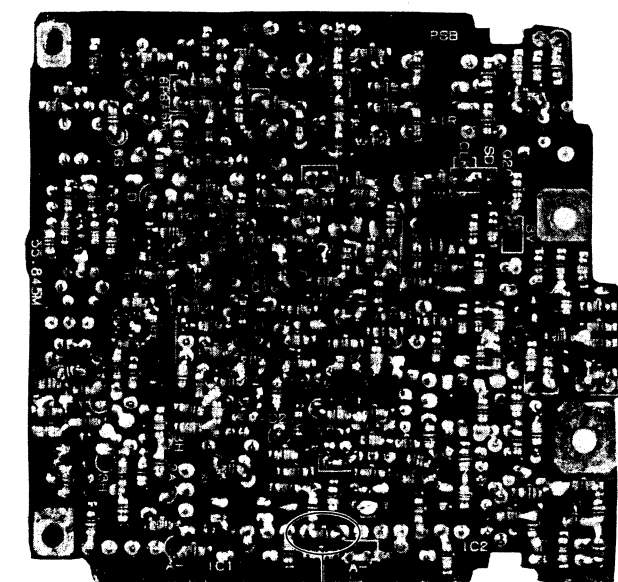
- AIR band
D8, 9, 203, 204: 1T32 (to be same characteristic)

When replacing these variable capacitance diodes, same characteristic diodes should be used.

(If not, tracking error or sensitivity change will be occurred.)

— Replacement parts —

- For FM/AM/PSB band One set (9 diodes)
Part No. 8-713-309-00
- For AIR band One set (4 diodes)
Part No. 8-713-240-00



LOCATION AND FUNCTION OF CONTROLS

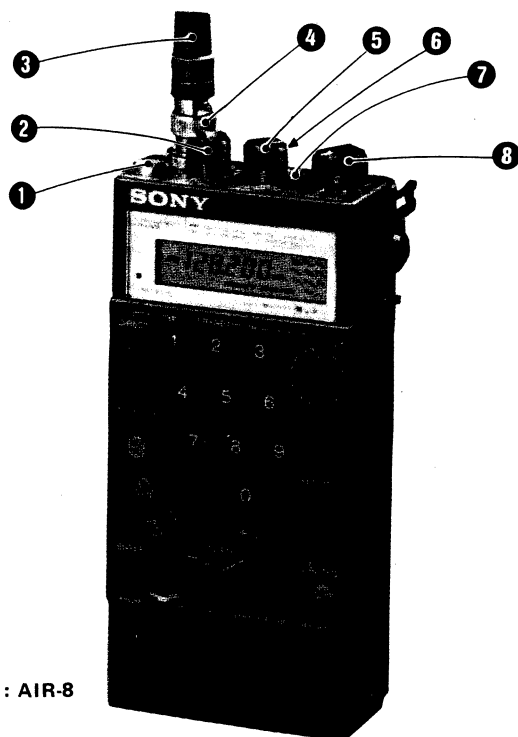


Photo : AIR-8

① POWER switch

Depress to turn on the receiver (▲ ON).
To turn the receiver off, press it again (▲ OFF).

② VOL (volume) control

Turn clockwise for more volume. It can be depressed (▲) to allow the SQL (squelch) control to be adjusted more easily.

③ Helical antenna (supplied)

Used for AIR band, PSB and FM reception.

④ ANT (antenna) connector

Connect the supplied helical antenna or the BNC connector of an optional external antenna for AIR band, PSB and FM reception.

⑤ SQL (squelch) control

Used for cutting background noise while tuning and during intervals between communications. Normally, depress the control (▲ AUTO). Press it again to set to ▲ MANUAL, and adjust the squelch level manually.

When performing auto tuning or memory scan tuning or program scan tuning, set the SQL control at the position where the RECEIVE indicator goes out.

⑥ ⑦ (earphone) jack

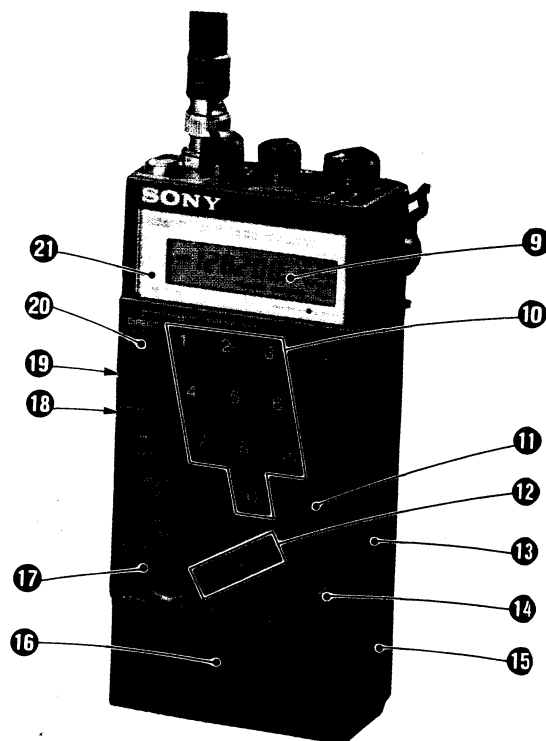
Connect the supplied earphone for private listening.
This jack is also used for connecting an external speaker or recording broadcast on a tape recorder.

⑦ AM EXT (external) ANTENNA jack

Connect an optional external antenna for AM reception.

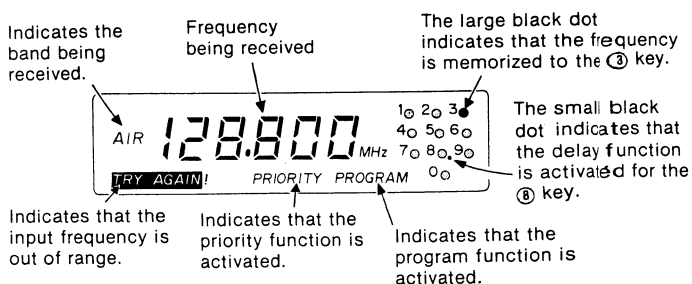
⑧ Band selector

Select the desired band: PSB, AIR, FM or AM



⑨ Display (LCD)

Displayed as follows:



⑩ Counter keys

Used to input a frequency for direct tuning, to memorize a station and to receive a memorized station.

⑪ EXECUTE key

Used for direct tuning.
After pressing the DIRECT key and inputting the desired frequency with the counter keys, press this key to tune in the frequency.

⑫ SCAN keys

Used for scan tuning and manual tuning.
When you press the ⊕ (plus) or ⊖ (minus) key, the frequency is increased or decreased by the intervals shown on page 9.
If you keep the key pressed, the frequency changes continuously.

⑬ LIGHT switch

The display is illuminated when this switch is pressed.

14 KEY PROTECT key

When this key is pressed once, the keys on the front face are locked and no longer function.

To release this key, press it again.

15 DC IN 6 V (external power input) jack

For operation from an external power source.

16 Speaker**17 ENTER key**

Used to memorize a frequency.

After inputting the desired frequency, while pressing this key, press the counter keys at which the frequency is to be memorized.

18 Battery compartment (rear)**19 9 kHz/10 kHz selector (inside battery compartment)**

Used to change the MW tuning interval.

20 DIRECT key

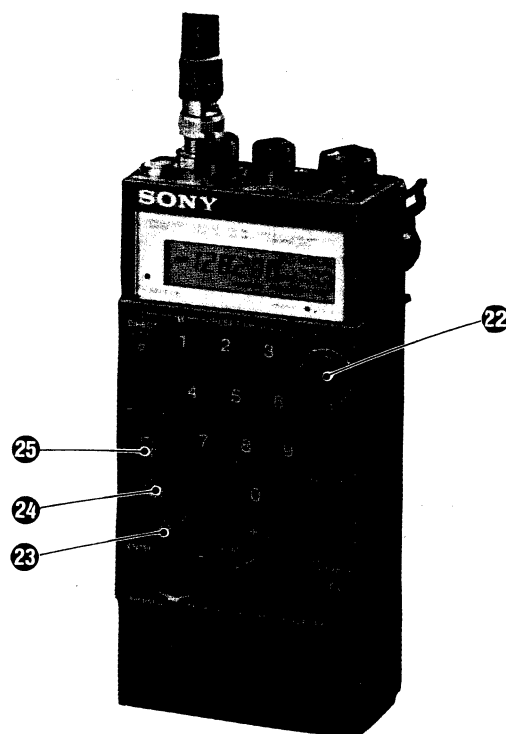
Used for direct tuning.

21 RECEIVE indicator (LED)

When a signal or a noise is received, this indicator lights in red.

KEYS FOR AIR BAND AND PSB RECEPTION

(indicated in green)

**22 MEMORY SCAN key**

Used for memory scan tuning.

23 PROGRAM key

Used to initiate the program function. See page 13.

24 DELAY key

Used to initiate the delay function. See page 14.

25 PRIORITY key

Used to initiate the priority function. See page 14.

POWER SOURCES

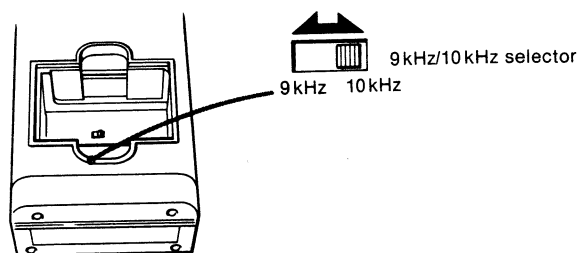
The internal batteries are also used to back up the built-in microcomputer. Be sure to keep the batteries installed even when the receiver is operated on other power sources.

HOW TO CHANGE THE MW TUNING INTERVAL

The MW tuning interval is factory preset to 10kHz or 9kHz to match the local frequency allocation system.

If you use the receiver in an area where the frequency allocation system is based on the other interval, change the position of the 9 kHz/10 kHz selector in the battery compartment as follows.

rear



- 1 Remove the batteries.
- 2 Switch the selector.
- 3 Wait at least 10 minutes, then put back the batteries in the compartment and close the lid.

Notes

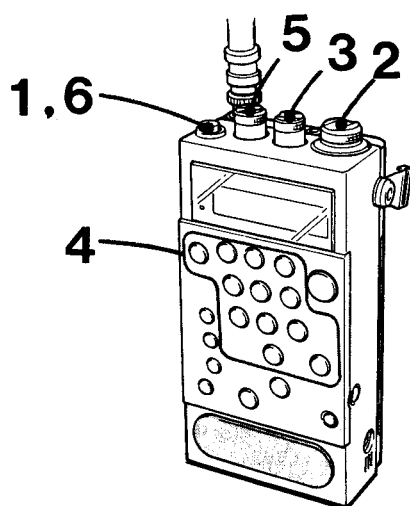
- If you replace the batteries within approx. 10 minutes after the batteries are removed, the tuning interval will not be changed although the selector has been switched. Be sure to wait for at least 10 minutes.
- After changing the MW tuning interval, memorize the stations and functions again, as the previous memory may have been erased.

FM/AM/AIR/PSB reception

DIRECT TUNING

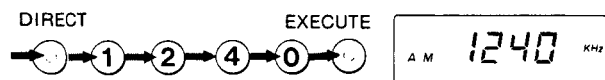
If you know the frequency of a station to be received, you can tune in the station easily by direct tuning.

The numbers in the illustration refer to the sequence of operation.



- 1 Depress the POWER switch (■ ON).
- 2 Set the band selector to the desired band.
- 3 Set the SQL control to MIN with ■ MANUAL set.
- 4 Press the DIRECT key, input the frequency of the station to be received using the counter keys, then press the EXECUTE key. The station will be tuned in.

Example: AM 1240 kHz



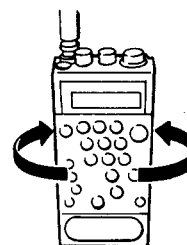
AM 2000 kHz



FM 90.10 MHz



For AM reception, the built-in ferrite bar antenna functions. Since this antenna is directional, rotate the set horizontally for optimum reception, if necessary.



Note: After pressing the DIRECT key or a counter key, press the next key within 5 seconds. If you do not, the previous station will return.

The frequency received by this receiver is displayed in steps of the following intervals, depending on the bands.

- AIR: 0.025 MHz
- PSB: 0.005 MHz
- FM: 0.050 MHz
- LW: 1 kHz
- MW: 9kHz or 10kHz *
- SW: 1 kHz

This is because the frequencies are allocated at these intervals. Therefore, if you input a frequency between the interval, the frequency at the interval just below will be tuned in and displayed. For example, if you input AM 1242 kHz with the tuning interval set to 10 kHz, AM 1240 kHz will be tuned in and displayed.

* This tuning interval can be also set to 10kHz or 9kHz by switching the 9kHz/10kHz selector in the battery compartment. See page 8.

If you input a wrong frequency

Press the DIRECT key again and input the correct frequency.

The **TRY AGAIN!** indication

If you input a frequency outside the frequency range (AIR 108-136 MHz, PSB 144-174 MHz, FM 76.0-108.0 MHz, AM 150-2194 kHz), the indication **TRY AGAIN!** will blink in the display. When you input a proper frequency, **TRY AGAIN!** indication will disappear. If you leave **TRY AGAIN!** indication blinking, it will disappear after about 5 seconds, and the tuned station's frequency will reappear.

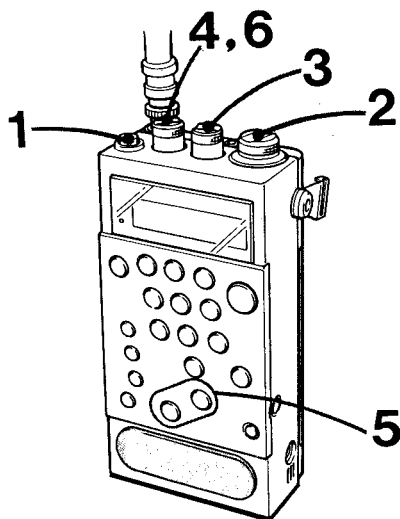
- 5 Adjust the volume with the VOL control.
- 6 After listening, press the POWER switch again to turn the receiver off (■ OFF).

FM/AM/AIR/PSB reception

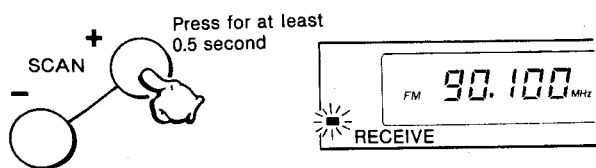
SCAN TUNING

Use scan tuning to automatically scan the stations in the frequency range of the band being received. Scanning stops automatically at each station.

The numbers in the illustration refer to the sequence of operations.



- 1 Depress the POWER switch (■ ON).
 - 2 Set the band selector to the desired band.
 - 3 Depress the SQL control (■ AUTO).
 - 4 Turn the VOL control slightly clockwise.
 - 5 Press the SCAN ⊕ or ⊖ key for at least 0.5 second to start scanning, then release the key. The display changes continuously and stops automatically when a station is received.
- Pressing the ⊕ key, the tuned frequency is increased.
Pressing the ⊖ key, the frequency is decreased.



Repeat step 5 until the desired station is received.

- 6 Adjust the volume with the VOL control.

- For AM reception, if necessary rotate the set horizontally for optimum reception.
- To stop scanning, press the ⊕ or ⊖ key momentarily.

After listening, set the POWER switch to ■ OFF.

If stations cannot be tuned in by scan tuning with the SQL control set to ■ AUTO, press the SQL control again (■ MANUAL) and turn the control slowly counterclockwise (towards MIN). Be careful not to turn this control too far counterclockwise.

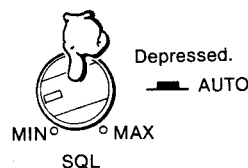
If scanning stops a little before a station, tune in the frequency more precisely by manual tuning (See page 11.).

Note on scanning

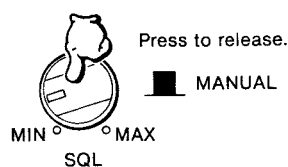
Scanning is performed in the range of the band being received, at the intervals shown on page 9. When the upper limit of the frequency of that band is reached, the dial is scanned back to the lower limit, and vice versa.

HOW TO USE THE SQL CONTROL

Normally, depress the SQL control (■ AUTO). Signals and noise below the factory-set level will be suppressed.



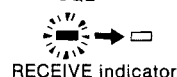
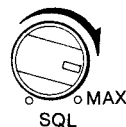
Press this control again to release it (■ MANUAL), and adjust the squelch level.



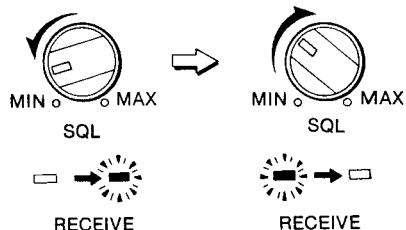
Turn the control counterclockwise (towards MIN) to receive weaker signals.



- If you attempt to perform scan tuning or memory scan tuning and scanning does not begin when the SQL control is in the ■ AUTO position, set the control to ■ MANUAL and turn the control slowly clockwise (towards MAX). At the level at which the RECEIVE indicator goes out, scanning will begin. Be careful not to turn the control too far clockwise or weak signals will not be received.



- If scanning does not stop when the SQL control is in the ■ AUTO position, turn the control slowly counterclockwise (towards MIN). When the RECEIVE indicator lights up, turn the control clockwise again until the indicator goes out.

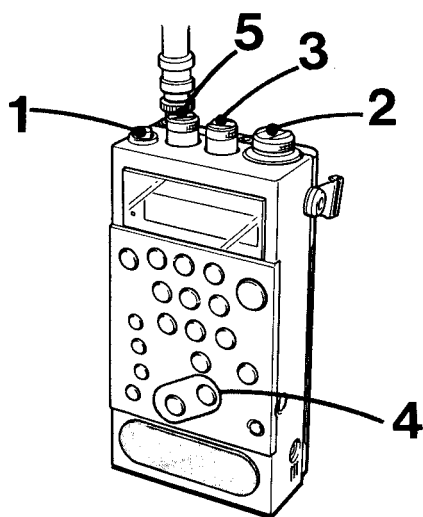


FM/AM/AIR/PSB reception

MANUAL TUNING

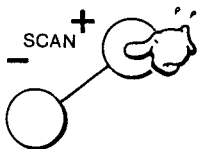
Use manual tuning when you do not know the frequency of the station you want to tune in, or when you want to tune in a station more precisely after scan tuning.

The numbers in the illustration refer to the sequence of operations.

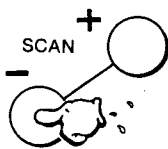


- 1 Depress the POWER switch (ON).
- 2 Set the band selector to the desired band.
- 3 Set the SQL control to MIN.
- 4 ① Keep the SCAN or key pressed until the desired station is received.

For higher frequencies



For lower frequencies



- ② Press the SCAN key momentarily to tune the station precisely. Each time the key is pressed, the frequency is increased or decreased by the intervals shown on page 9.

- 5 Adjust the volume with the VOL control.

After listening, set the POWER switch to OFF.

FM/AM/AIR/PSB reception

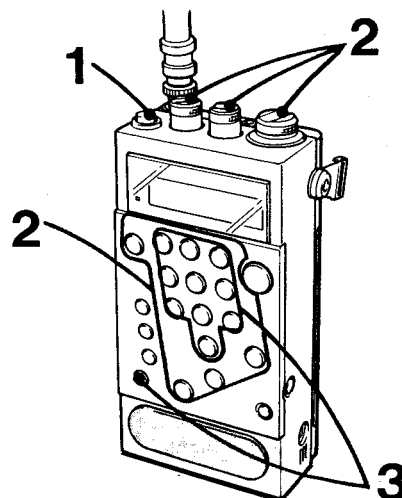
MEMORY TUNING

Once the frequencies of the stations you want to tune in are memorized, all you have to do is to push a key.

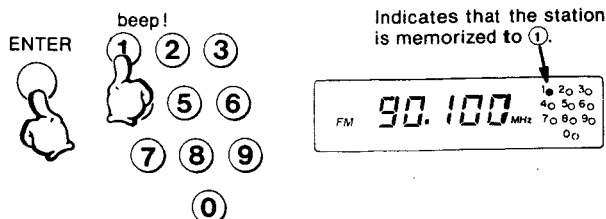
One FM, one AM, one AIR and one PSB station can be memorized to a key, or a total of 40 stations (Canadian, AEP-2 models of AIR-7 and AIR-8) or 30 stations (AEP-1, E models of AIR-7) to all the counter keys.

HOW TO MEMORIZE A STATION

The numbers in the illustration refer to the sequence of operations.



- 1 Depress the POWER switch (ON).
- 2 Tune in the desired station using any tuning method—direct tuning (page 9), scan tuning (page 10) or manual tuning (page 11).
- 3 While pressing the ENTER key, press one of the counter keys. A beep sounds and the corresponding dot appears.



Notes

- The frequencies memorized to all the counter keys at the factory are as follows:

AIR: 108 MHz
PSB: 144 MHz
FM: 76 MHz

AM: 531 kHz (530kHz in Canadian model of AIR-7 and AIR-8)

- If you memorize another station of the same band to a key on which you have already memorized a station, the previous station will be erased.

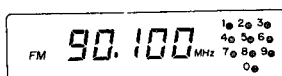
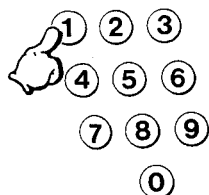
You cannot erase a station without memorizing another station.

To check your memory

After memorizing the stations, press each counter key in turn to check that the desired stations have been memorized correctly. You can recall a station any time by pressing its counter key.

HOW TO RECEIVE A MEMORIZED STATION

Turn the power on, select the band and press the appropriate counter key. The memorized station will be received.



Note: If no batteries are installed for more than 3 minutes, all memorized stations will be erased.

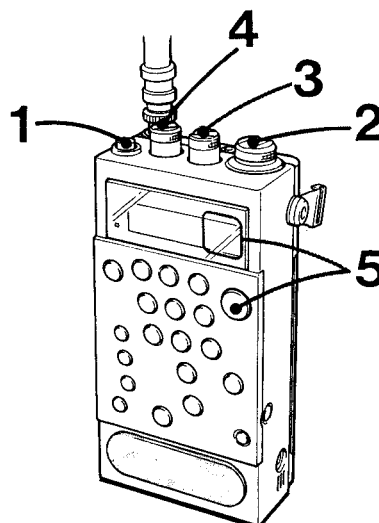
AIR/PSB reception

MEMORY SCAN TUNING

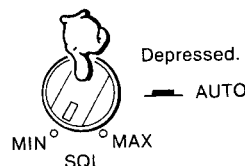
The stations memorized on the counter keys are scanned in sequence at the press of the MEMORY SCAN key and scanning stops automatically when a signal is received.

Memorize frequencies to all counter keys. (See "How to memorize a station" on page 11.)

Follow the numbered sequence.



- 1 Depress the POWER switch (ON).
- 2 Set the band selector to AIR or PSB.
- 3 Depress the SQL control (AUTO*).



For type 1 and 2 models, you can monitor police, fire, forestry conservation, VHF weather, traffic and other public safety radio services, as well as the air band.

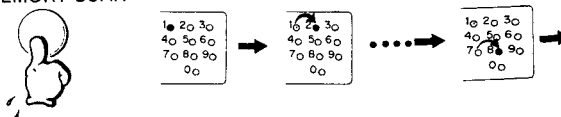
Direct tuning, scan tuning, manual tuning and memory tuning

Tuning procedure is the same as for FM or AM reception. See pages 9 to 12.

If necessary, set the SQL control to MANUAL and adjust it. (See page 10.)

- 4 Adjust the volume with the VOL control.
- 5 Keep the MEMORY SCAN key pressed for at least 0.5 second, then release it. The memorized stations will be tuned in continuously in the sequence 1→2→3→...→0→1→...*.

MEMORY SCAN



When there is a signal, scanning will stop. If the signal disappears, scanning begins again.

To stop scanning, press the MEMORY SCAN key again.

To start scanning again when memory scanning has automatically stopped, keep the MEMORY SCAN key pressed for at least 0.5 second and release it.

Each time you press the MEMORY SCAN key momentarily, a memorized station is tuned in.

Using the program function, you can change the sequence of memory scanning. (See page 13.)

* When noise is heard while tuning, set the SQL control to MANUAL and turn it slowly clockwise.

AIR/PSB reception

PROGRAM FUNCTION

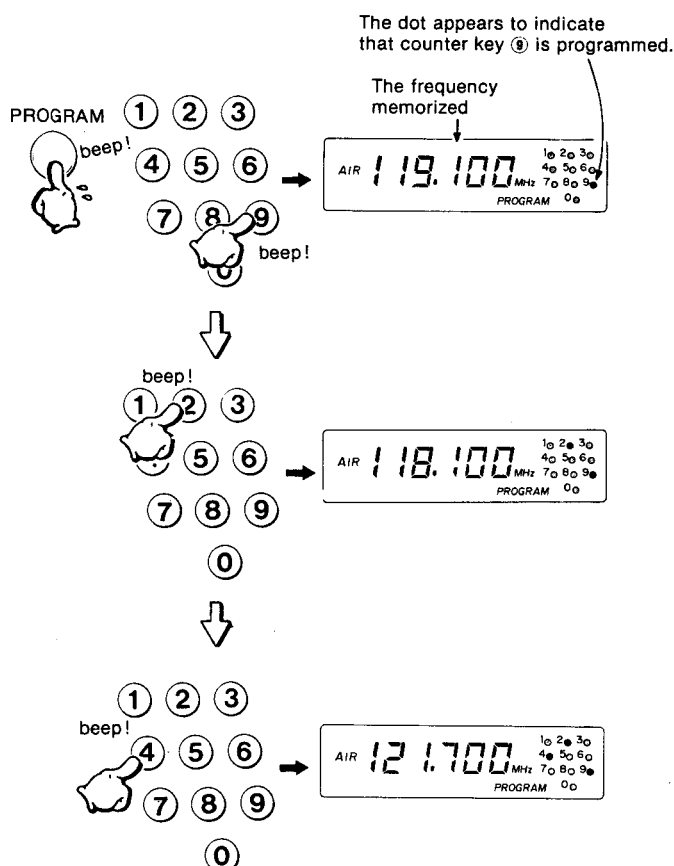
The program function is used to change the sequence of memory scanning or scan only certain keys.

How to activate the program function

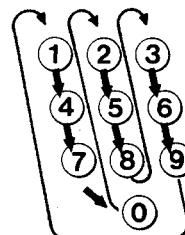
Memorize frequencies to all counter keys.

Follow the numbered sequence.

- 1 While pressing the PROGRAM key, press the counter keys in the desired sequence.



- The sequence of programmed scanning is factory set as follows.



- Since only 10 keys can be programmed, even if the eleventh key is pressed, it is not programmed.
- The program function can be activated and cancelled while another station is being received.

To cancel the program function

Press the PROGRAM key again. The PROGRAM indication in the display disappears. In this case, the sequence of memory scanning reverts to 1→2→3→...→9→1→...

- During programming, the previous station is received.
- You can program the counter keys in any desired sequence of up to 10 scanning points, including programming the same counter key more than once.

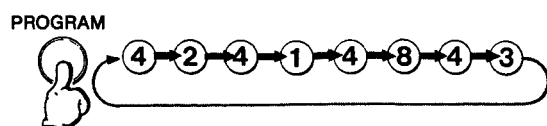
- 2 Press the MEMORY SCAN key to start memory scanning.

To scan stations 9, 2 and 4



Example of programming

To tune in a certain station memorized to the 4 key



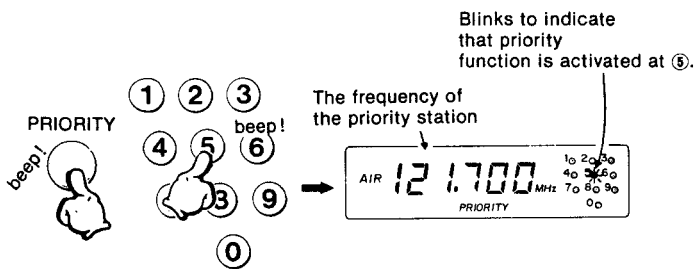
AIR/PSB reception

PRIORITY FUNCTION

If you are particularly interested in listening to a certain station, designate it as the priority station. The set automatically tunes to the station every 3 seconds to check whether there is a signal or not, even while another station is being received.

To designate the priority station

Memorize frequencies to all counter keys. While pressing the PRIORITY key, press the counter key to which the desired frequency is memorized. If more than two counter keys are pressed, the last key pressed designates the priority station.



- The PRIORITY indication appears in the display. A beep sounds and the corresponding dot blinks.
- When the priority station is tuned in every 3 seconds, the station being received will be interrupted for a fraction of a second.

To cancel the priority station

Press the PRIORITY key again. The PRIORITY indication and the dot in the display disappear.

- The priority function can be activated and cancelled while another station is being received.

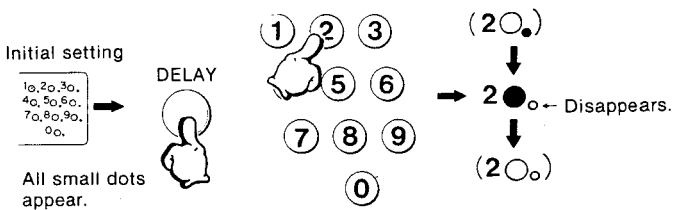
AIR/PSB reception

DELAY FUNCTION

Using the delay function, the station being received will be kept tuned in during memory scanning after the signal stops for approx. 2 seconds, i.e. during the interval between communications. The delay function is activated on all counter keys at the factory.

To cancel the delay function

While pressing the DELAY key, press the counter key on which the delay function is to be cancelled.



The corresponding small dot in the display disappears.

To activate the delay function again

While pressing the DELAY key, press the counter key on which you want the delay function to activate. The small dot in the display appears.

- The delay function can be activated and cancelled while another station is being received.
- Using the delay and priority functions simultaneously, you can receive a station continuously.

• IC301's (PLL CONTROL IC μ PD7503-136) TERMINAL FUNCTIONS

Terminal No.	Terminal Name	Function	Terminal No.	Terminal Name	Function
1	NC	This terminal is not used on this set.	33	S21	Signal output for LCD segment.
2	SW		34	S20	
3	MW		35	S19	
4	LW		36	S18	
5	LP	Signal input for PLL lock detector.	37	S17	
6	DAT	Dividing number (N) serial data output of PLL IC (IC201).	38	S16	
7	CLK/KS0	Signal output for synchronous clock pulse of above serial data or signal output for initial key source.	39	S15	
8	LAT	Signal output for above serial data latch.	40	S14	
9	MT	Signal output for sound muting. muted: L, otherwise: H	41	S13	
10	SD	Signal input for station detector. tuned: H, detuned: L	42	S12	
11	KS1	Signal output for key matrix scanning.	43	S11	
12	KS2		44	S10	
13	KS3		45	S9	
14	KS4		46	S8	
15	KS5	Signal input for key matrix scanning.	47	S7	
16	K0		48	S6	
17	K1		49	S5	
18	K2		50	S4	
19	K3	This terminal is not used on this set.	51	S3	Input for PSB band switching. PSB mode: H, otherwise: L For 3 band model, fix to L.
20	X2		52	S2	
21	X1		53	S1	
22	VSS		54	S0	
23	VLC3	Input for LCD power supply.	55	PSB	
24	VLC2		56	RESET	
25	VLC1		57	CK	
26	VDD		58	VDD	
27	COM3	Power supply terminal.	59	CK	
28	COM2	This terminal is not used on this set.	60	AIR	
29	COM1	Common signal output for LCD.	61	FM	
30	COM0		62	AM	
31	S23		63	PON	
32	S22		64	BEEP	
		This terminal is not used on this set.			Reset terminal
					System clock pulse oscillation terminal. (Approx. 120kHz)
					Power supply terminal.
					System clock pulse oscillation terminal. (Approx. 120kHz)
					Input for AIR band switching. AIR mode: H, otherwise: L
					Input for FM band switching. FM mode: H, otherwise: L
					Input for AM band switching. AM mode: H, otherwise: L
					Input for power supply switching. POWER ON: H, OFF: L
					Signal output for beep sound. (Approx. 2kHz)

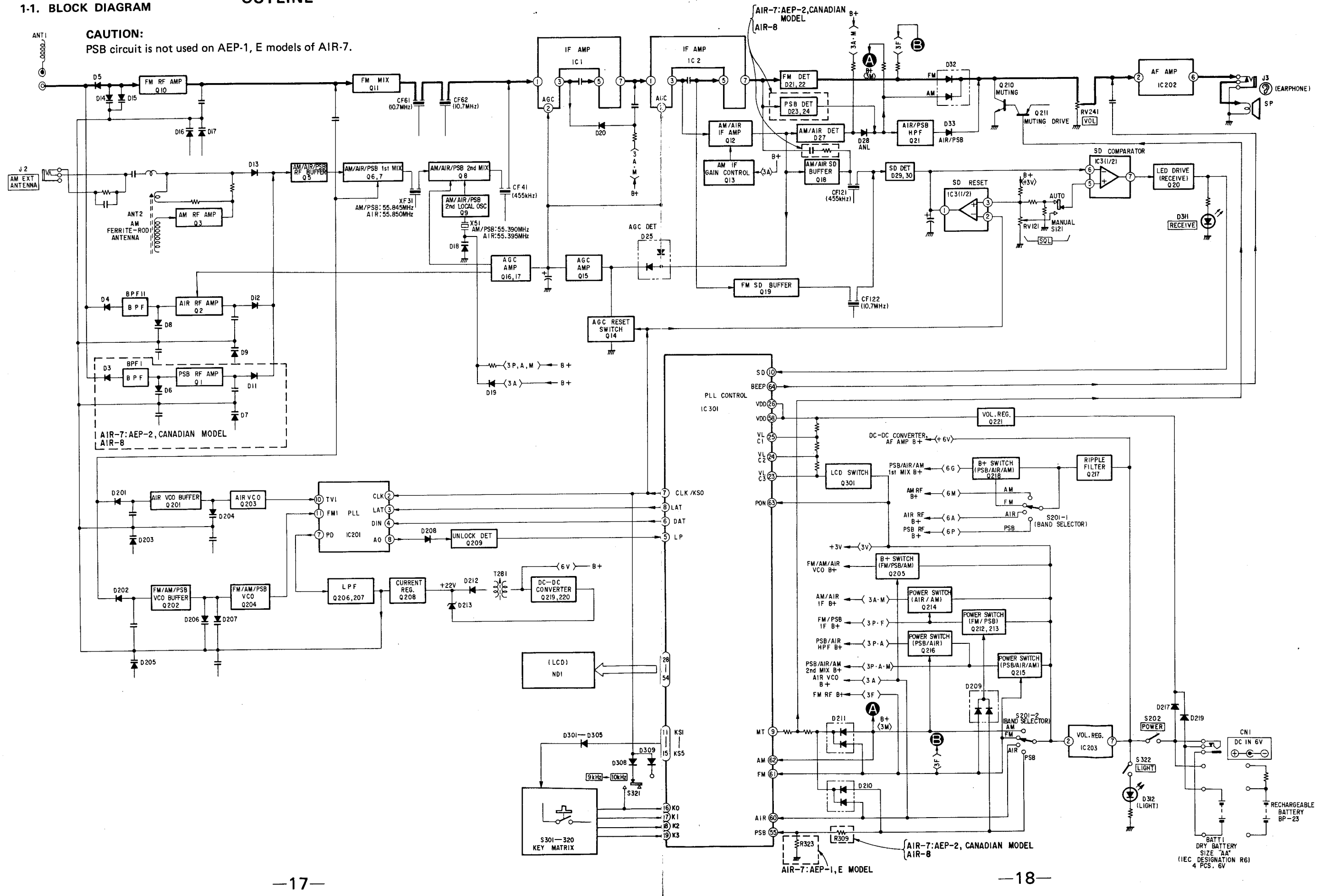
• KEY MATRIX TABLE

Output	Input	⑰ K3	⑱ K2	⑲ K1	⑰ K0	REMARKS
⑦ KS0					MW CH STEP 9kHz↔10kHz	INITIAL KEY
⑪ KS1	DELAY (SET/RESET)	PRIORITY (SET/RESET)	PROGRAM (SET/RESET)	ENTER		DOUBLE KEY
⑫ KS2	DIRECT	MEMORY SCAN START/STOP	SCAN – (DOWN)	SCAN + (UP)		
⑬ KS3	1	2	3	4		
⑭ KS4	5	6	7	8		
⑮ KS5	9	0	EXECUTE	KEY PROTECT		

SECTION 1 OUTLINE

1-1. BLOCK DIAGRAM

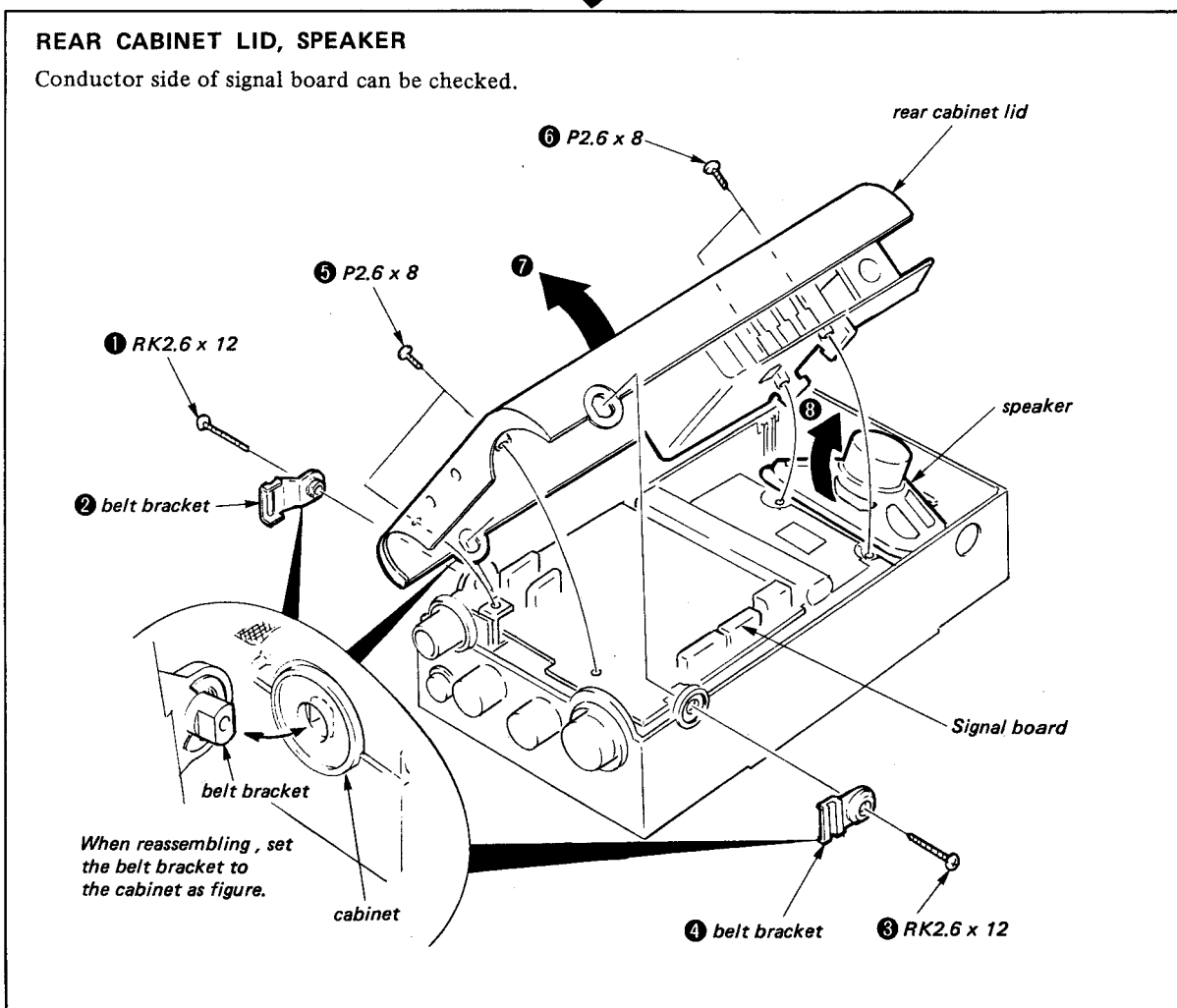
CAUTION:
PSB circuit is not used on AEP-1, E models of AIR-7.



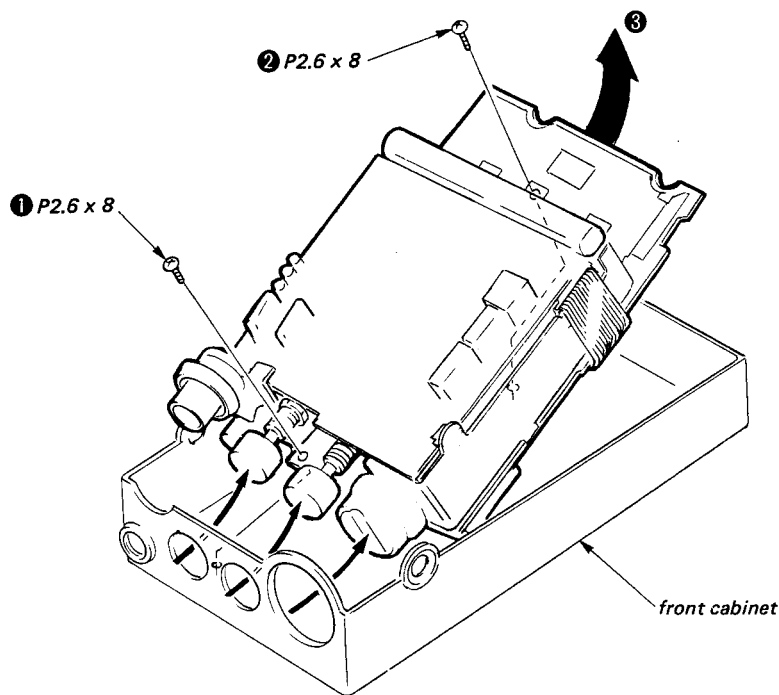
SECTION 2 DISASSEMBLY

Note: Follow the disassembly procedure in the numerical order given.

Remove the battery holder.

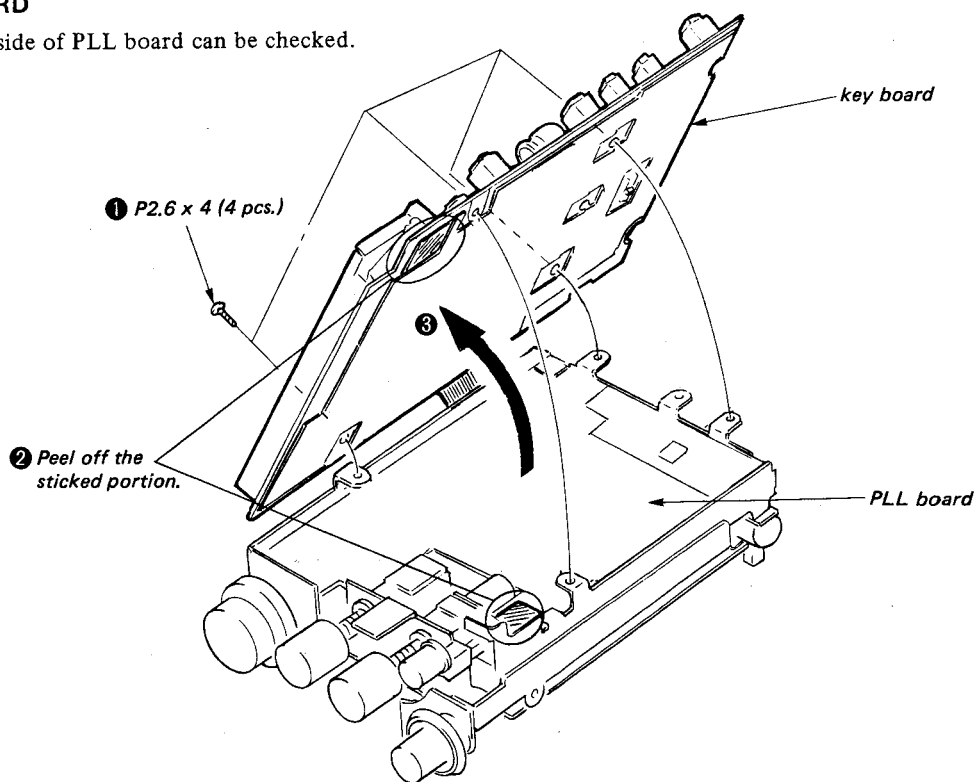


FRONT CABINET



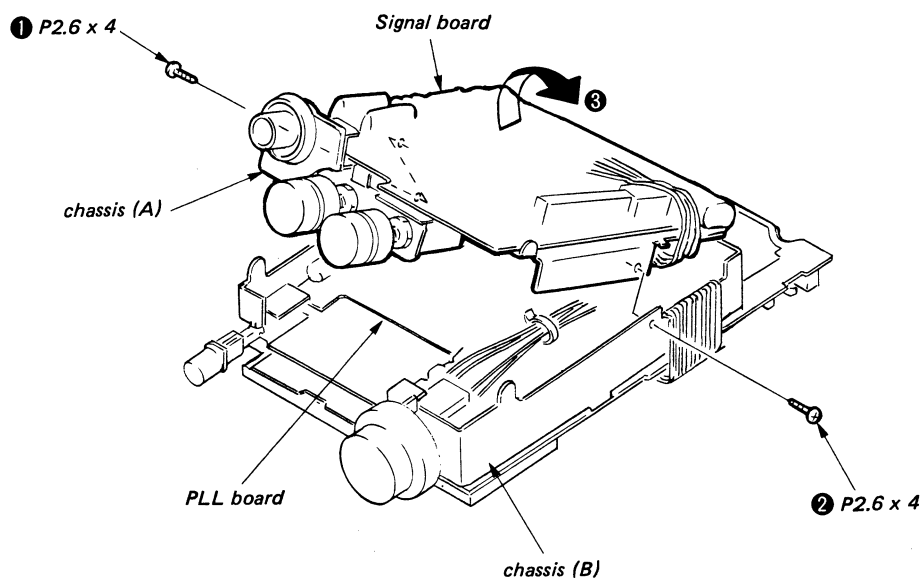
KEY BOARD

Conductor side of PLL board can be checked.



CHASSIS (A)

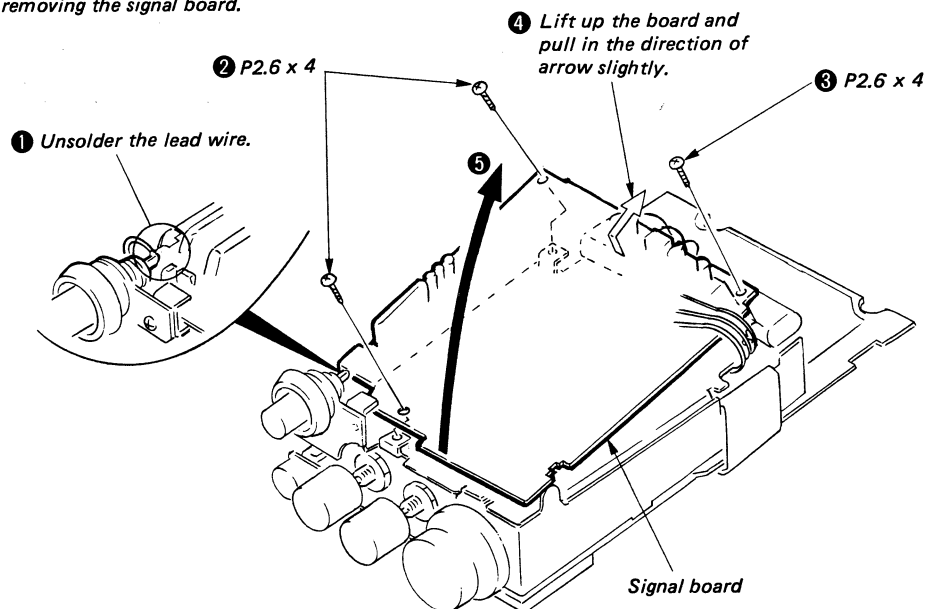
Conductor side of PLL board can be checked.



SIGNAL BOARD

Conductor side of signal board can be checked.

Note: Be careful not to break the lead wire when removing the signal board.



SECTION 3 ADJUSTMENTS

3-1. ELECTRICAL ADJUSTMENTS

Note On Adjustment

1. Adjustments should be made in the order given in this service manual.
2. Tracking adjustments should be made with signal board set to chassis A, and PLL board and key board set to chassis B. (If not, adjustment values will be out of the specifications after setting the board to the chassis.)
3. When FM section adjustments are made, connect 10pF capacitor to the following point and connect FM RF SSG input to the antenna input terminals. After adjustment, unsolder the 10pF capacitor and reconnect lead wire.

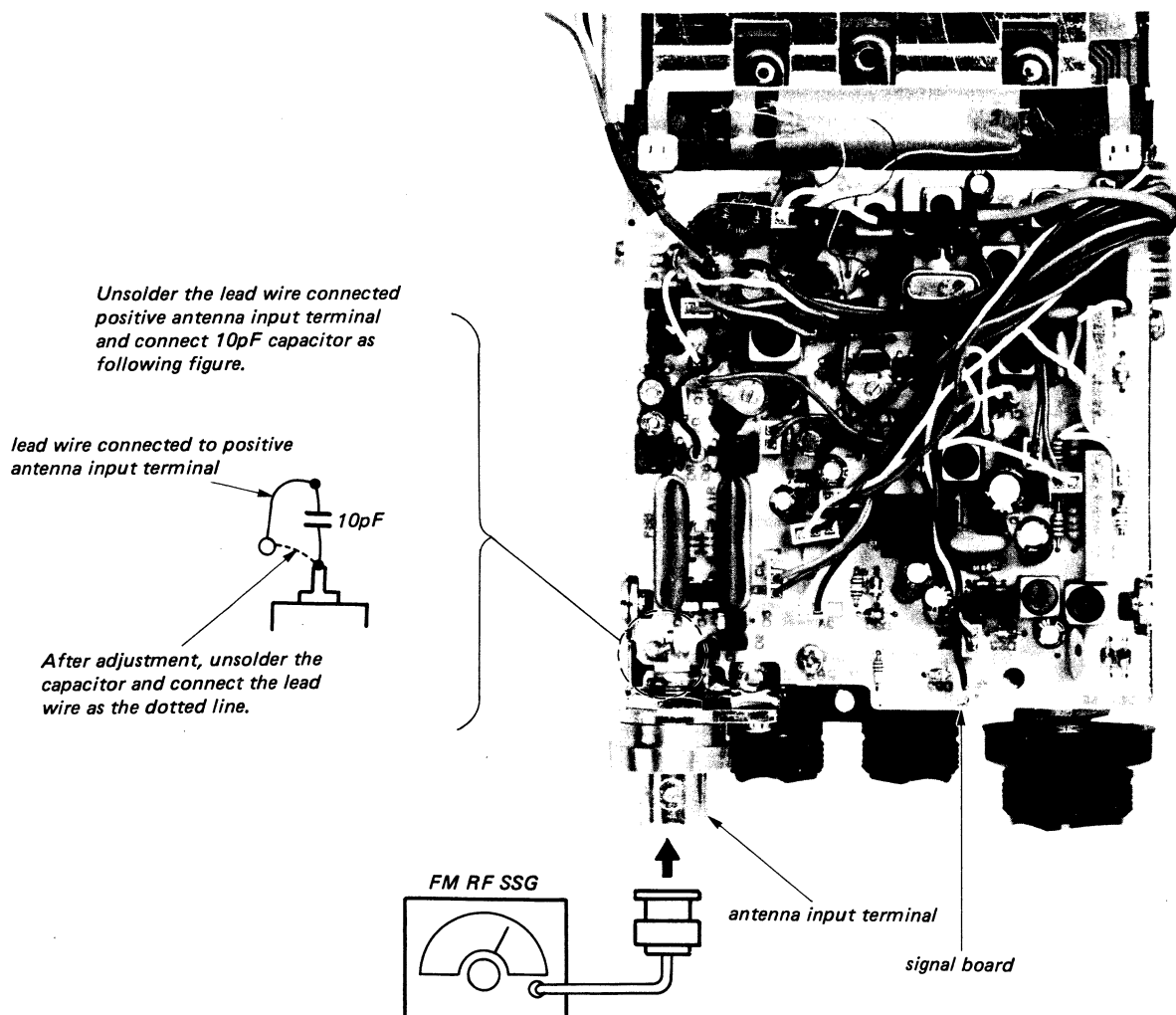


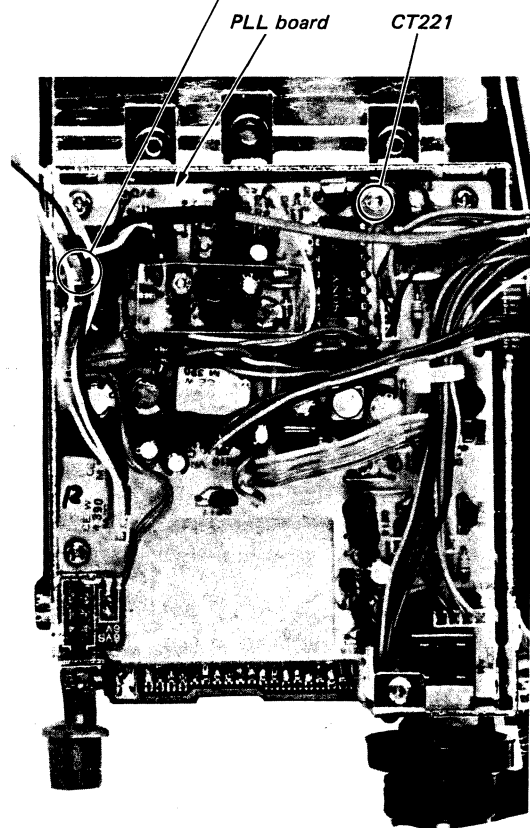
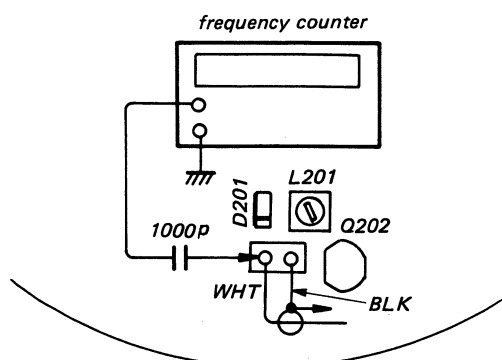
Fig. 6 Connecting point of 10pF capacitor for FM section adjustments

Reference Frequency Adjustment

Setting: Band selector: FM

Procedure:

1. Set the receiving frequency to 76MHz.
2. Adjust CT221 so that the frequency counter reads $86.7 \pm 0.0001\text{MHz}$.



AIR VCO Adjustment

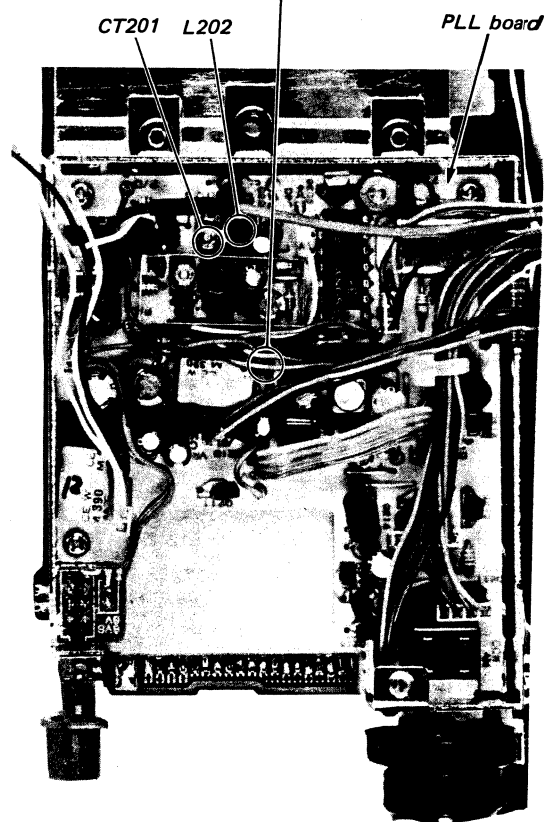
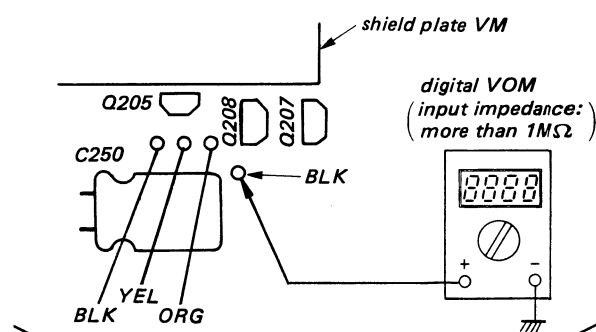
Setting: Band selector: AIR

Procedure:

1. Set the receiving frequency to 108MHz.
2. Set CT201 to the mechanical center.



3. Adjust L202 so that the digital VOM reads 3.25V.

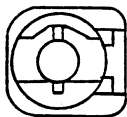


FM/PSB/AM VCO Adjustment

Setting: Band selector: AM

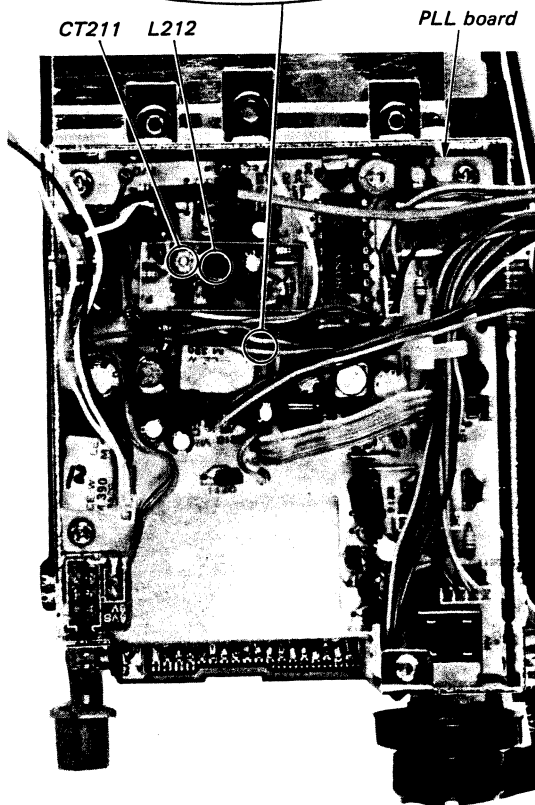
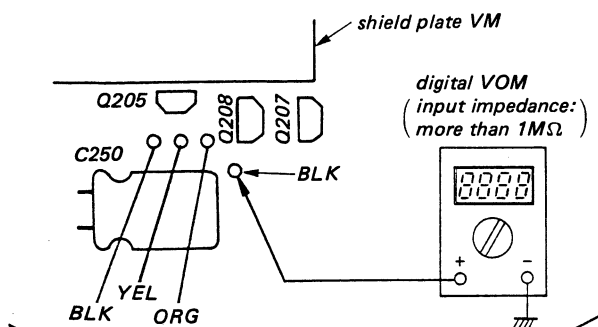
Procedure:

1. Set the receiving frequency to 150kHz.
2. Set CT211 to the mechanical center.



(MECHANICAL
CENTER
POSITION)

3. Adjust L212 so that the digital VOM reads 1.25V.

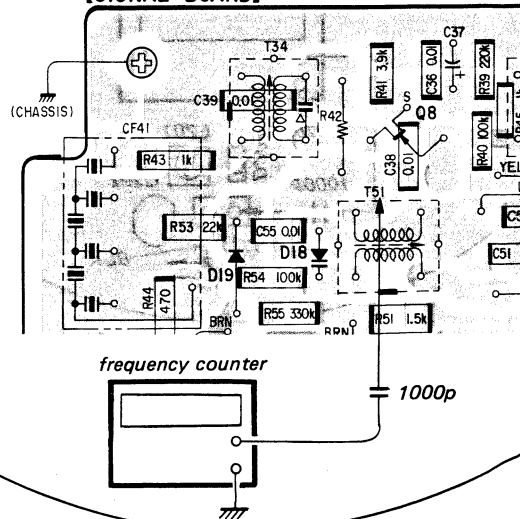


PSB/AIR/AM Second Local Oscillator VCXO Adjustment

Procedure:

1. Band selector: AM
Receiving frequency is free.
2. Adjust T51 so that the frequency counter reads $55.390 \pm 0.0001\text{MHz}$.
3. Band selector: AIR
Receiving frequency is free.
4. Confirm that the frequency counter reads $55.395 \pm 0.001\text{MHz}$.

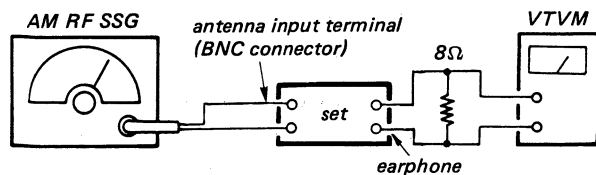
[SIGNAL BOARD] (CONDUCTOR SIDE)



PSB/AIR/AM IF Adjustment

Setting: Band selector: AIR

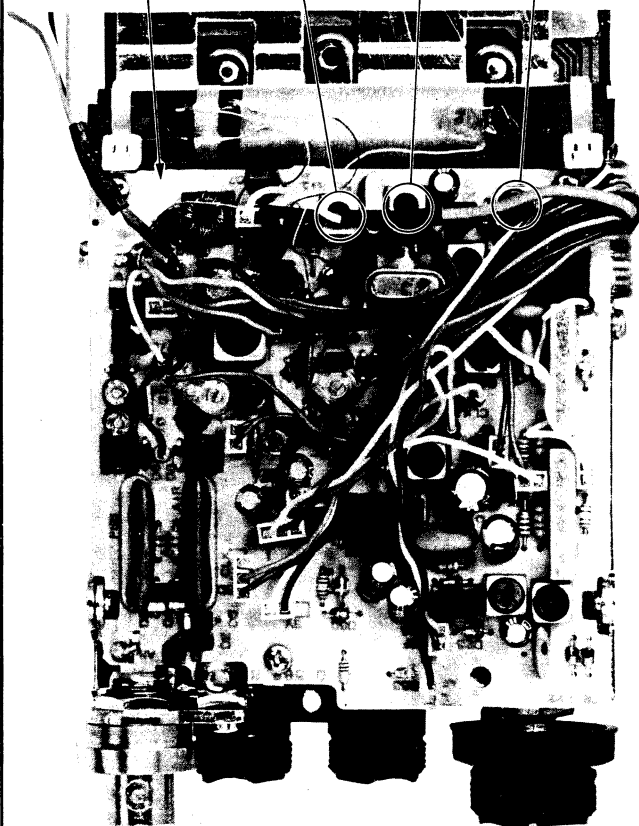
Procedure:



Carrier frequency: 122MHz
 Modulation: 30% amplitude modulation by 1kHz signal
 Output level: As low as possible around 0dB

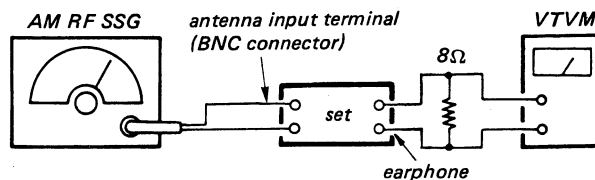
1. Tune the set to 122MHz.
2. Adjust T32, T33, T34 for a maximum reading on VTVM.

signal board T32 T33 T34


AIR/AM Detector Adjustment

Setting: Band selector: AIR

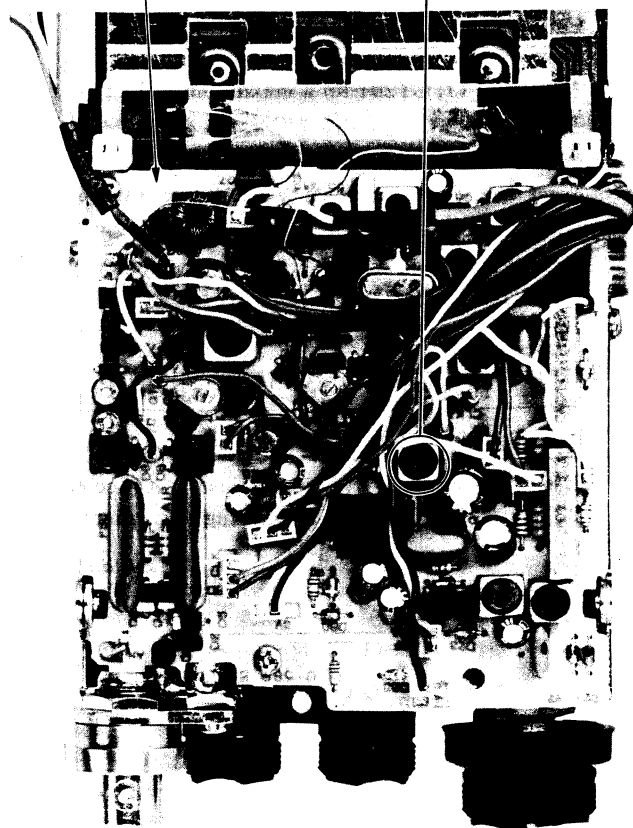
Procedure:



Carrier frequency: 122MHz
 Modulation: 30% amplitude modulation by 1kHz signal
 Output level: As low as possible around 0dB

1. Tune the set to 122MHz.
2. Adjust T101 for a maximum reading on VTVM.

signal board T101



AIR Tracking Adjustment

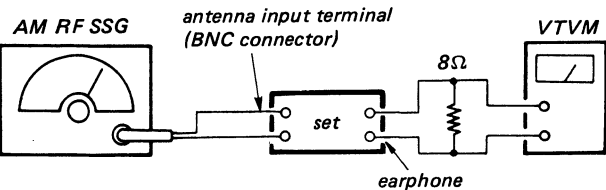
Setting:

- 1. This adjustment should be made after AIR VCO Adjustment (See page 23).
- 2. Band selector: AIR

PRECAUTION:

Adjustments should be made with signal board set to chassis A, and PLL board and key board set to chassis B.

Procedure:



Modulation: 30% amplitude modulation by 1kHz signal
Output level: As low as possible around 0dB

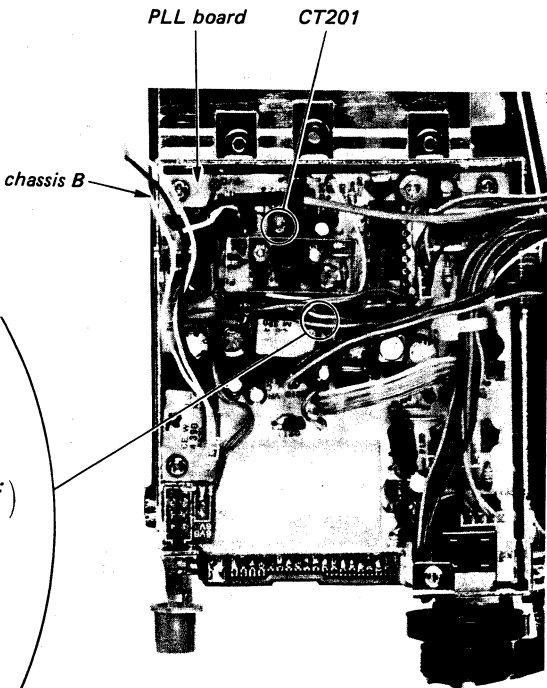
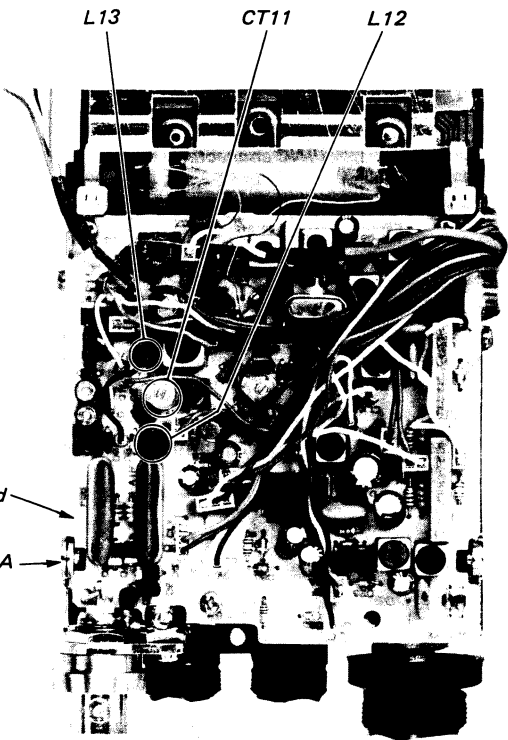
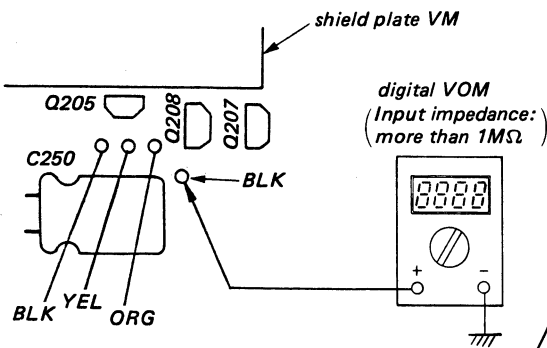
- 1. Carrier frequency of AM RF SSG: 109MHz
- 2. Tune the set to 109MHz.
- 3. Adjust L12, L13 for a maximum reading on VTVM.
- 4. Carrier frequency of AM RF SSG: 136MHz
- 5. Tune the set to 136MHz.
- 6. Adjust CT11, CT201 for a maximum reading on VTVM.
- 7. Repeat steps 1 – 6 two or three times.

Note: The adjustment should be finally done at step 6.

- 8. After adjustment, make sure that AIR VCO dc voltage is as follows at the receiving frequency of 108MHz and 136MHz.

receiving frequency	AIR VCO dc voltage
108MHz	3.25 ±0.5V
136MHz	13.4 ⁺² _{-1.5} V

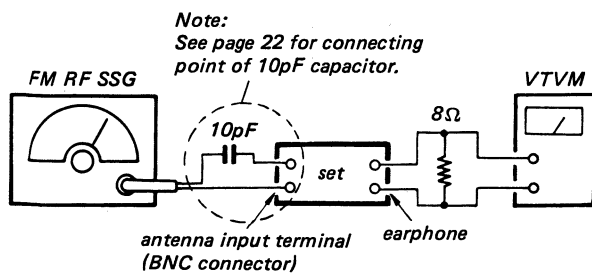
If necessary, make AIR VCO adjustment (See page 23). After that, make AIR tracking adjustment again.



FM IF Adjustment

Setting: Band selector: FM

Procedure:

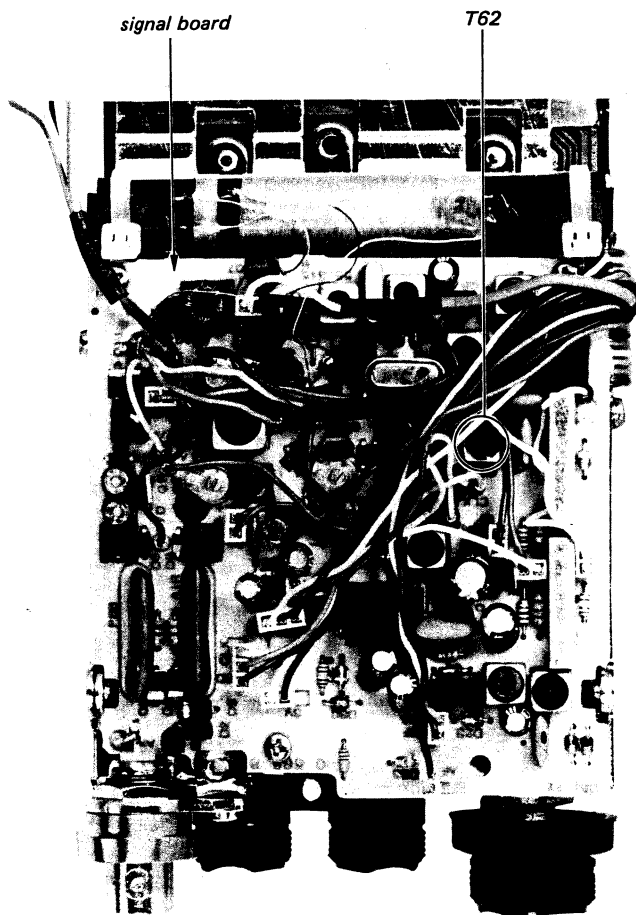


Carrier frequency: 93MHz

Modulation: $\pm 22.5\text{kHz}$ frequency deviation by
400Hz signal (30%)

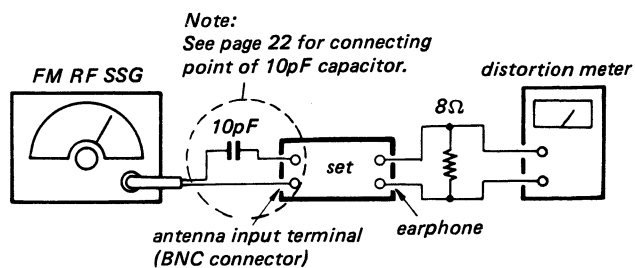
Output level: As low as possible around 10dB

1. Tune the set to 93MHz.
2. Adjust T62 for a maximum reading on VTVM.


FM Discriminator Adjustment

Setting: Band selector: FM

Procedure:

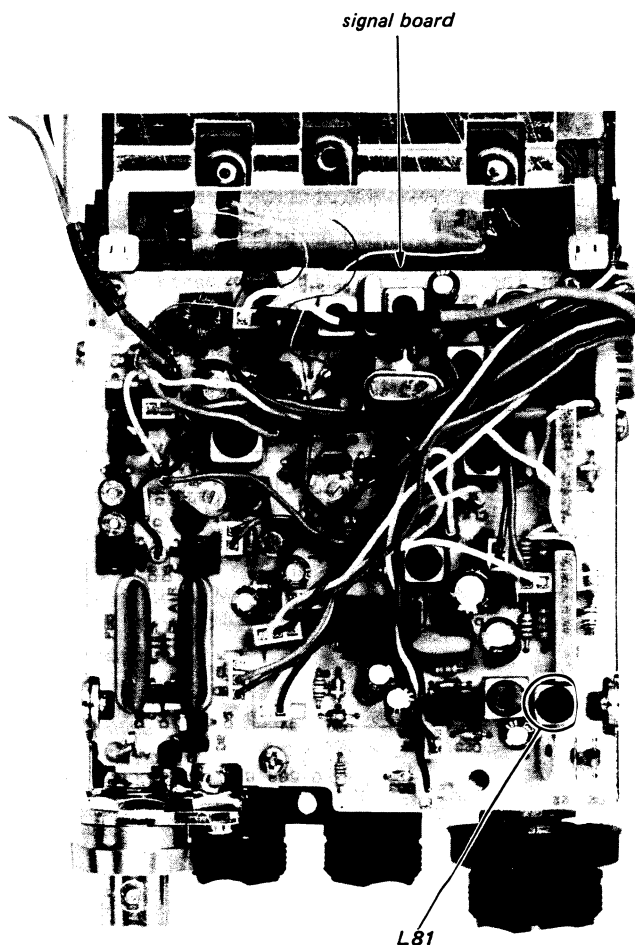


Carrier frequency: 93MHz

Modulation: $\pm 22.5\text{kHz}$ frequency deviation by
400Hz signal (30%)

Output level: 54dB

1. Tune the set to 93MHz.
2. Adjust L81 for a minimum reading on distortion meter.



FM Tracking Adjustment

Setting:

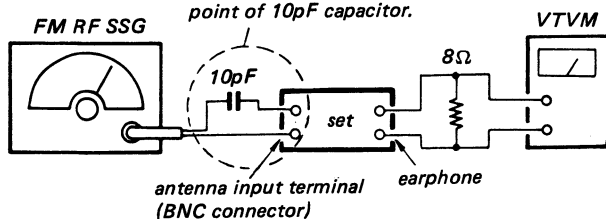
- This adjustment should be made after FM/PSB/AM VCO adjustment (See page 24).
- Band selector: FM

PRECAUTION:

Adjustments should be made with signal board set to chassis A, and PLL board and key board set to chassis B.

Procedure:

Note:
See page 22 for connecting point of 10pF capacitor.



Modulation: $\pm 22.5\text{kHz}$ frequency deviation by 400Hz signal (30%)

Output level: As low as possible around 10dB.

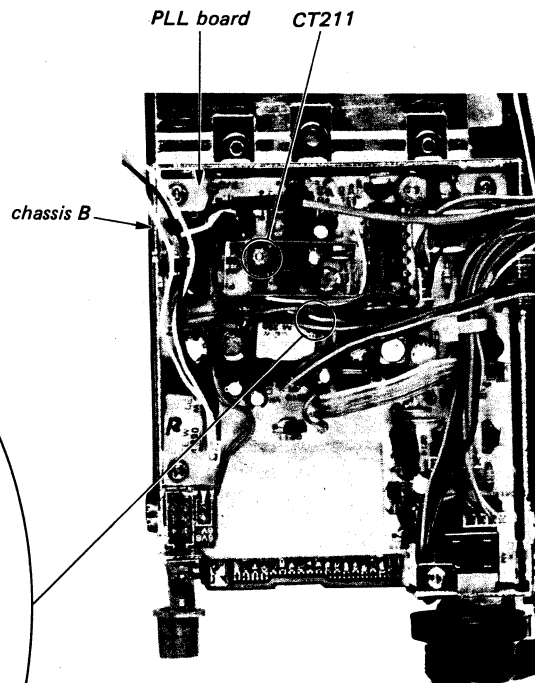
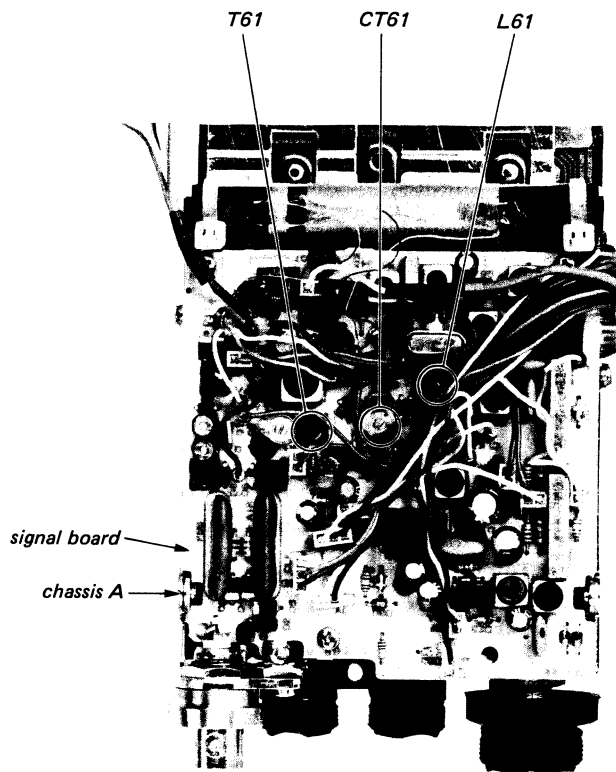
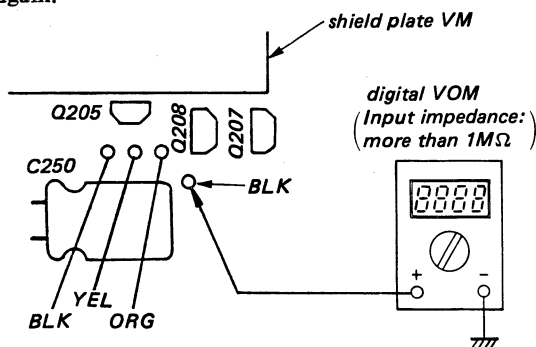
1. Carrier frequency of FM RF SSG: 76MHz
2. Tune the set to 76MHz.
3. Adjust T61, L61 for a maximum reading on VTVM.
4. Carrier frequency of FM RF SSG: 108MHz
5. Tune the set to 108MHz.
6. Adjust CT61, CT211 for a maximum reading on VTVM.
7. Repeat steps 1 – 6 two or three times.

Note: The adjustment should be finally done at step 6.

8. After adjustment, make sure that FM/PSB/AM VCO dc voltage is as follows at the receiving frequency of 76MHz and 108MHz.

receiving frequency	FM/PSB/AM VCO dc voltage
76MHz	$8.5 \pm 0.7\text{V}$
108MHz	$17.4 \pm 1.5\text{V}$

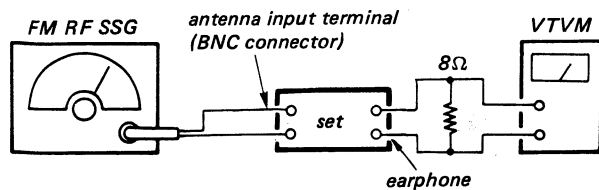
If necessary, make FM/PSB/AM VCO adjustment (See page 24). After that, make FM tracking adjustment again.



PSB Discriminator Adjustment

Setting: Band selector: PSB

Procedure:

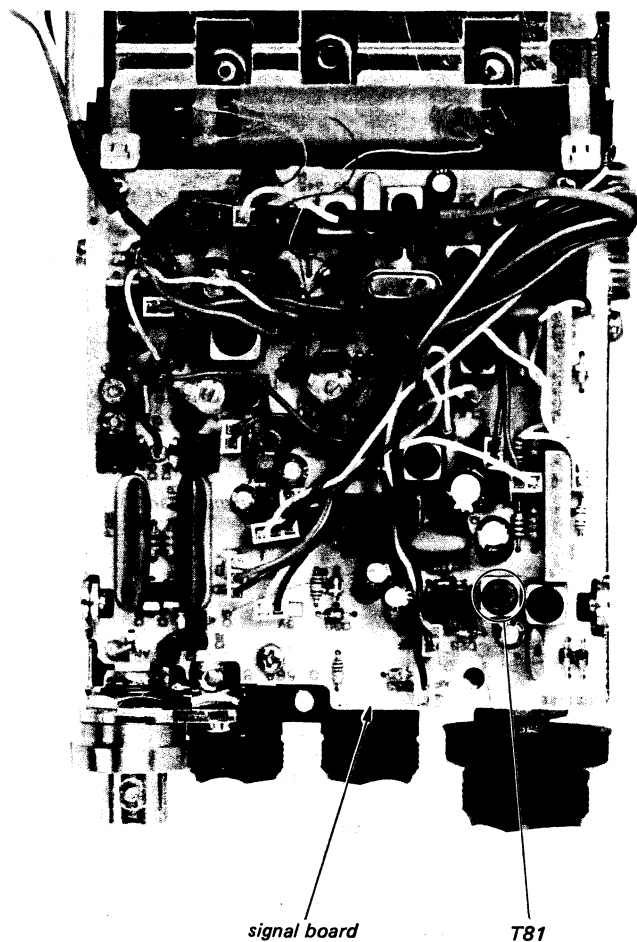


Carrier frequency: 150MHz

Modulation: 3.5kHz frequency deviation by 1kHz signal

Output level: As low as possible around -5dB

1. Tune the set to 150MHz.
2. Adjust T81 for a maximum reading on VTVM.



PSB Tracking Adjustment

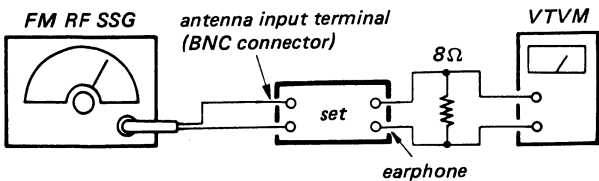
Setting:

- This adjustment should be made after FM/PSB/AM VCO adjustment and FM tracking adjustment. (See page 24 and 28.)
- Band selector: PSB

PRECAUTION:

Adjustments should be made with signal board set to chassis A, and PLL board and key board set to chassis B.

Procedure:



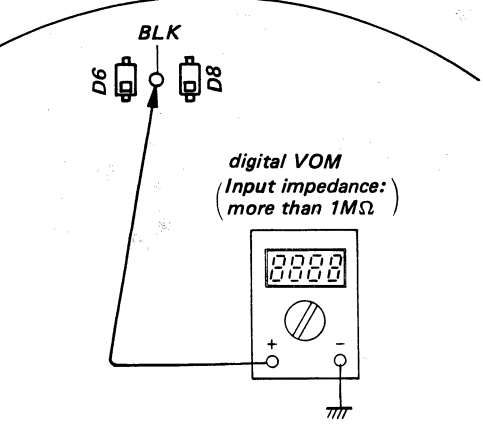
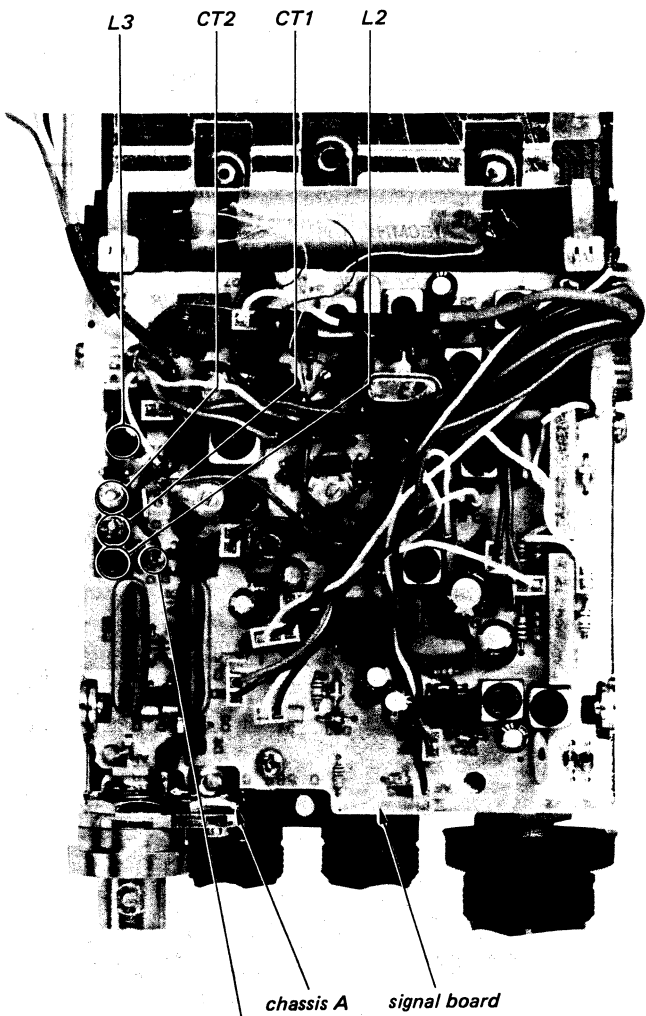
Modulation: 3.5kHz frequency deviation by 1kHz signal
Output level: As low as possible around -5dB

1. Carrier frequency of FM RF SSG: 150MHz
2. Tune the set to 150MHz.
3. Adjust L2, L3 for a maximum reading on VTVM.
4. Carrier frequency of FM RF SSG: 174MHz
5. Tune the set to 174MHz.
6. Adjust CT1, CT2 for a maximum reading on VTVM.
7. Repeat 1 – 6 steps two or three times.

Note: The adjustment should be finally done at step 6.

8. After adjustment, make sure that FM/PSB/AM VCO dc voltage is as follows at the receiving frequency of 144MHz and 174MHz.

receiving frequency	FM/PSB/AM VCO dc voltage
144MHz	8.9 ±0.7V
174MHz	17.1 ±1.5V



AIR-7/8 AIR-7/8

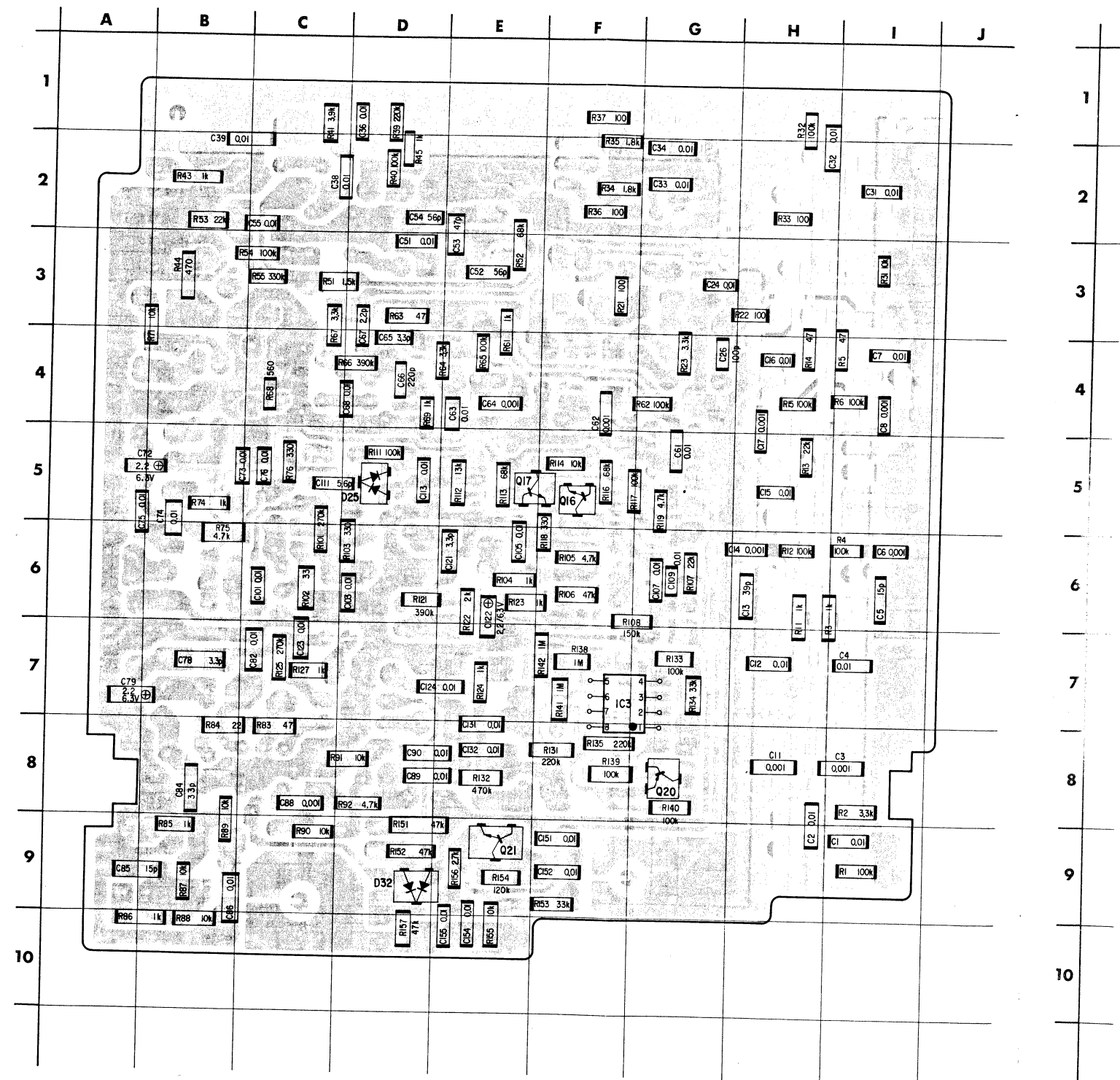
Note: The parts marked with * are mounted on PC board for 3 band model (AEP-1, E model), but they are not used.

PLL BOARD

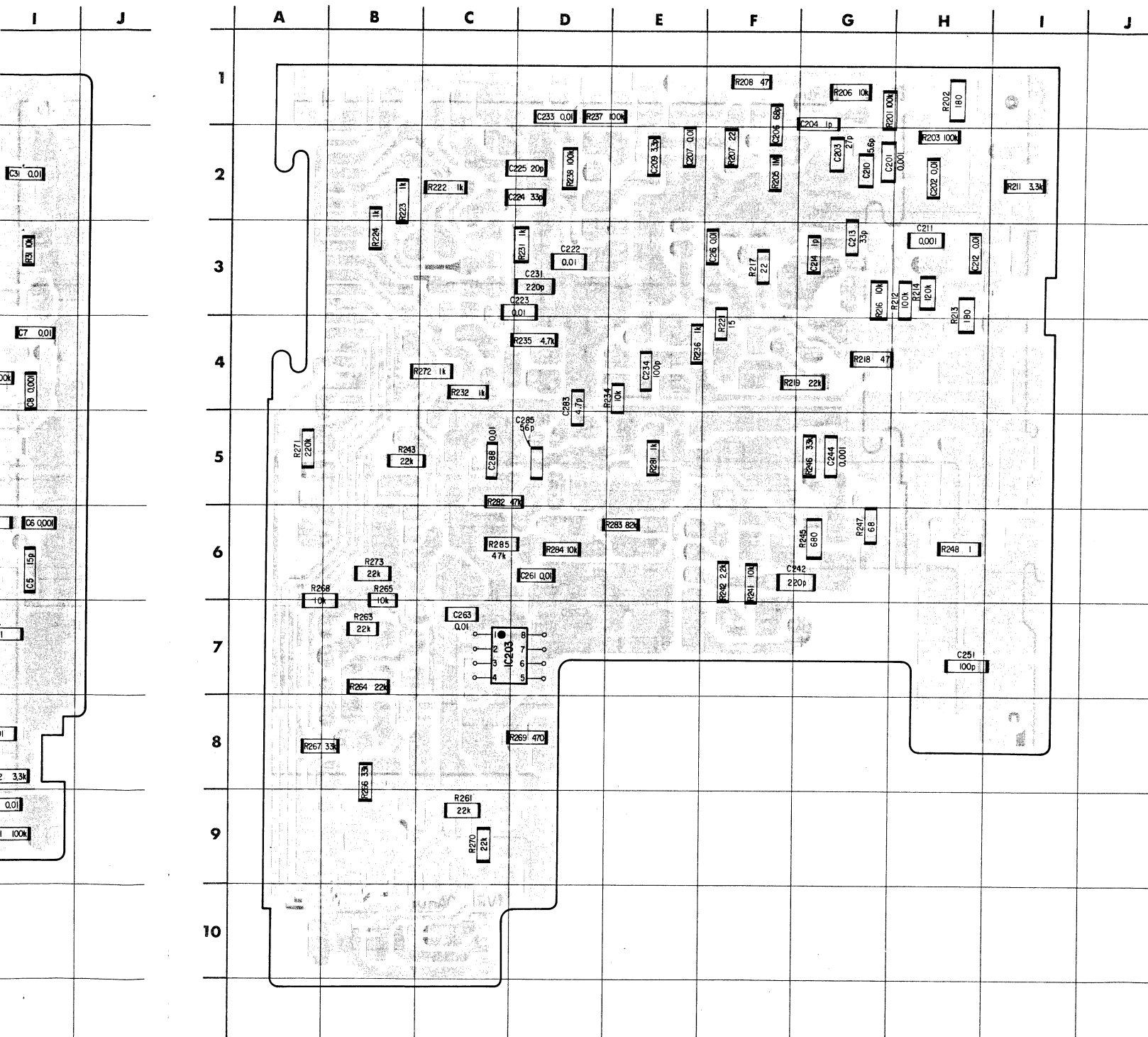
SEMICONDUCTORS		CAPACITORS		RESISTORS		IC		RESISTORS	
Ref. No.	Location No.	Ref. No.	Location No.	Ref. No.	Location No.	Ref. No.	Location No.	Ref. No.	Location No.
IC3	F-7	C1	I-9	C90	D-8	R1	I-9	R88	B-10
		C2	H-9	C101	C-6	R2	I-8	R89	B-9
Q16	F-5	*C3	I-8	C103	D-6	*R3	H-6	R90	C-9
Q17	E-5	*C4	I-7	C105	E-6	*R4	I-6	R91	D-8
Q20	G-8	*C5	I-6	C107	G-6	*R5	I-4	R92	D-8
Q21	E-9								
D25	D-5	*C6	I-6	C109	G-6	*R6	I-4	R101	C-6
D32	D-9	*C7	I-4	C111	C-5	R11	H-6	R102	C-6
		*C8	I-4	C113	D-5	R12	H-6	R103	D-6
		C11	H-8	C121	E-6	R13	H-5	R104	E-6
		C12	H-7	C122	E-6	R14	H-4	R105	F-6
		C13	H-6	C123	C-7	R15	H-4	R106	F-6
		C14	H-6	C124	D-7	R21	F-3	R107	G-6
		C15	H-5	C131	E-8	R22	H-3	R108	F-6
		C16	H-4	C132	E-8	R23	G-4	R111	D-5
		C17	H-5	C151	F-9	R31	I-3	R112	E-5
		C24	G-3	C152	F-9	R32	H-1	R113	E-5
		C26	G-4	C154	E-10	R33	H-2	R114	F-5
		C31	I-2	C155	E-10	R34	F-2	R116	F-5
		C32	H-2			R35	F-2	R117	F-5
		C33	G-2			R36	F-2	R118	F-6
		C34	G-2			R37	F-1	R119	G-5
		C36	D-1			R39	D-1	R121	D-6
		C38	C-2			R40	D-2	R122	E-6
		C39	B-2			R41	C-1	R123	E-6
		C51	D-3			R43	B-2	R124	E-7
		C52	E-3			R44	B-3	R125	C-7
		C53	E-3			R45	D-2	R127	C-7
		C54	D-2			R51	C-3	R131	F-8
		C55	C-2			R52	E-3	R132	E-8
		C61	G-5			R53	B-2	R133	G-7
		C62	F-4			R54	C-3	R134	G-7
		C63	E-4			R55	C-3	R135	F-8
		C64	E-4			R61	E-4	R138	F-7
		C65	D-4			R62	G-4	R139	F-8
		C66	D-4			R63	D-3	R140	G-8
		C67	D-3			R64	D-4	R141	F-7
		C68	D-4			R65	E-4	R142	F-7
		C72	A-5			R66	D-4	R151	D-9
		C73	B-5			R67	C-3	R152	D-9
		C74	B-5			R68	C-4	R153	F-9
		C75	A-5			R69	D-4	R154	E-9
		C76	C-5			R71	A-3	R155	E-10
		C78	B-7			R74	B-5	R156	E-9
		C79	A-7			R75	B-6	R157	D-10
		C82	C-7			R76	C-5		
		C84	B-8			R83	C-8		
		C85	A-9			R84	B-8		
		C86	B-9			R85	B-9		
		C88	C-8			R86	A-10		
		C89	D-8			R87	B-9		

Ref. No.	Location No.	Ref. No.	Location No.
IC203	C-7	R201	G-1
		R202	H-1
		R203	H-2
		R205	F-2
		R206	G-1
		R207	F-2
		R208	F-1
		R211	I-2
		R212	H-3
		R213	H-3
		R214	H-3
		R216	G-3
		R217	F-3
		R218	G-4
		R219	G-4
		R221	F-4
		R222	C-2
		R223	B-2
		R224	B-3
		R231	D-3
		R232	C-4
		R234	E-4
		R235	D-4
		R236	E-4
		R237	D-1
		R238	D-2
		R241	F-6
		R242	F-6
		R243	B-5
		R245	G-6
		R246	G-5
		R247	G-6
		R248	H-6
		R261	C-9
		R263	B-7
		R264	B-7
		R265	B-6
		R266	B-8
		R267	A-8
		R268	A-6
		R269	D-8
		R270	C-9
		R271	A-5
		R272	C-4
		R273	B-6
		R281	E-5
		R282	C-5
		R283	E-6
		R284	D-6
		R285	C-6

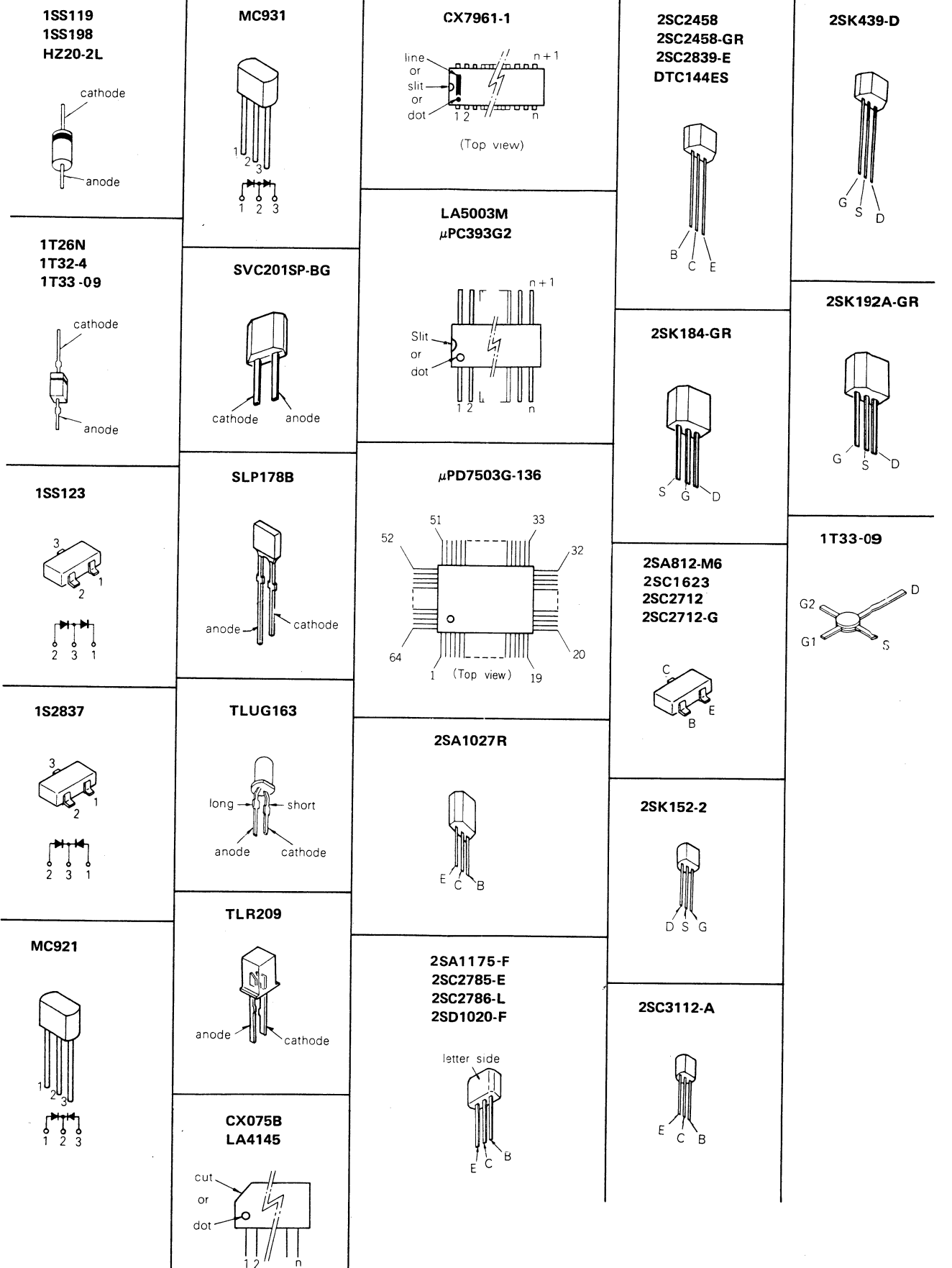
4-2.



4-2. MOUNTING DIAGRAM - PLL Board -



• Semiconductor Lead Layouts



4-3. MOUNTING DIAGRAM

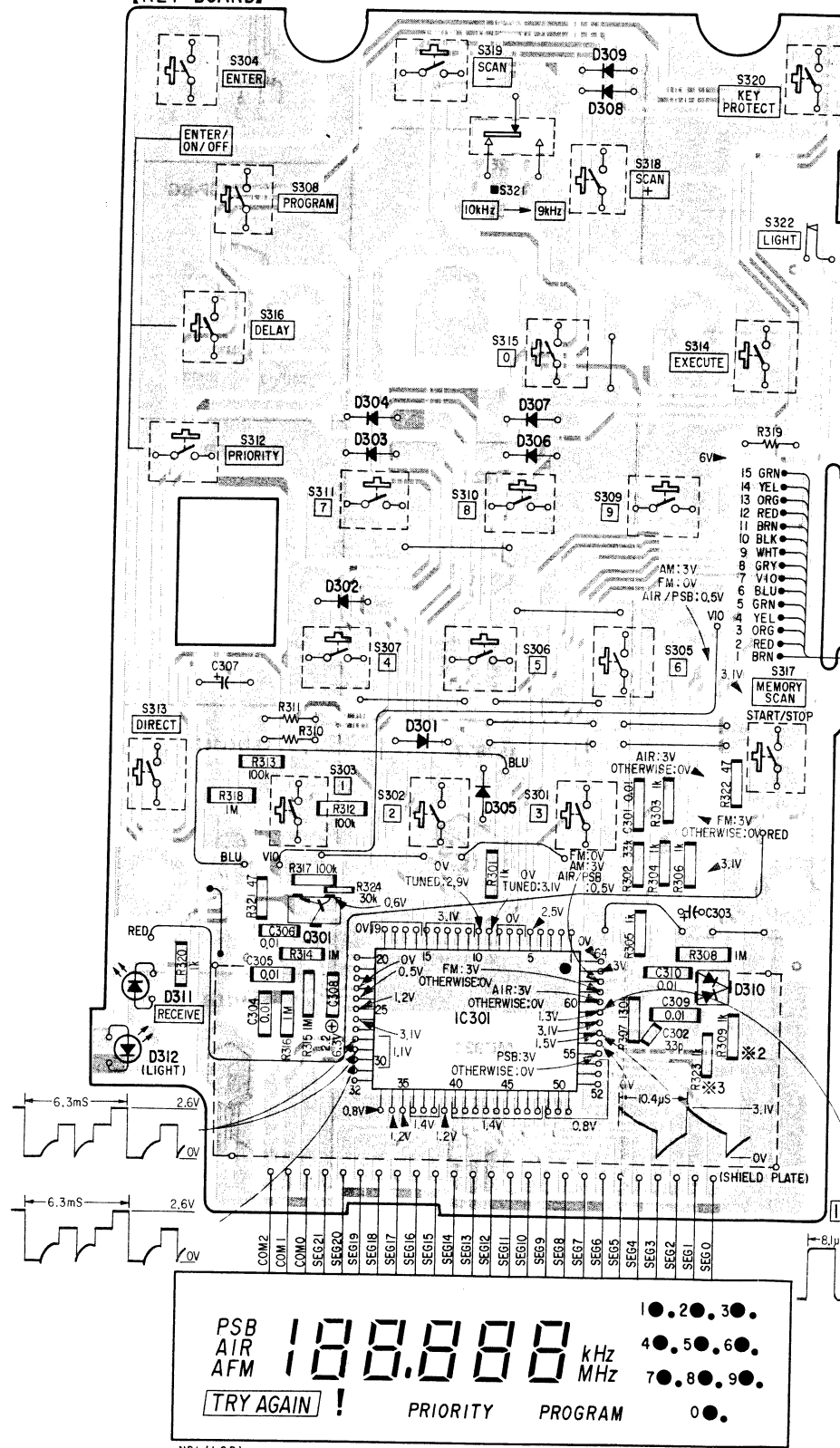
AIR-7/8 AIR-7/8

See page 43 for notes marked with * 1 - 4.

Note:

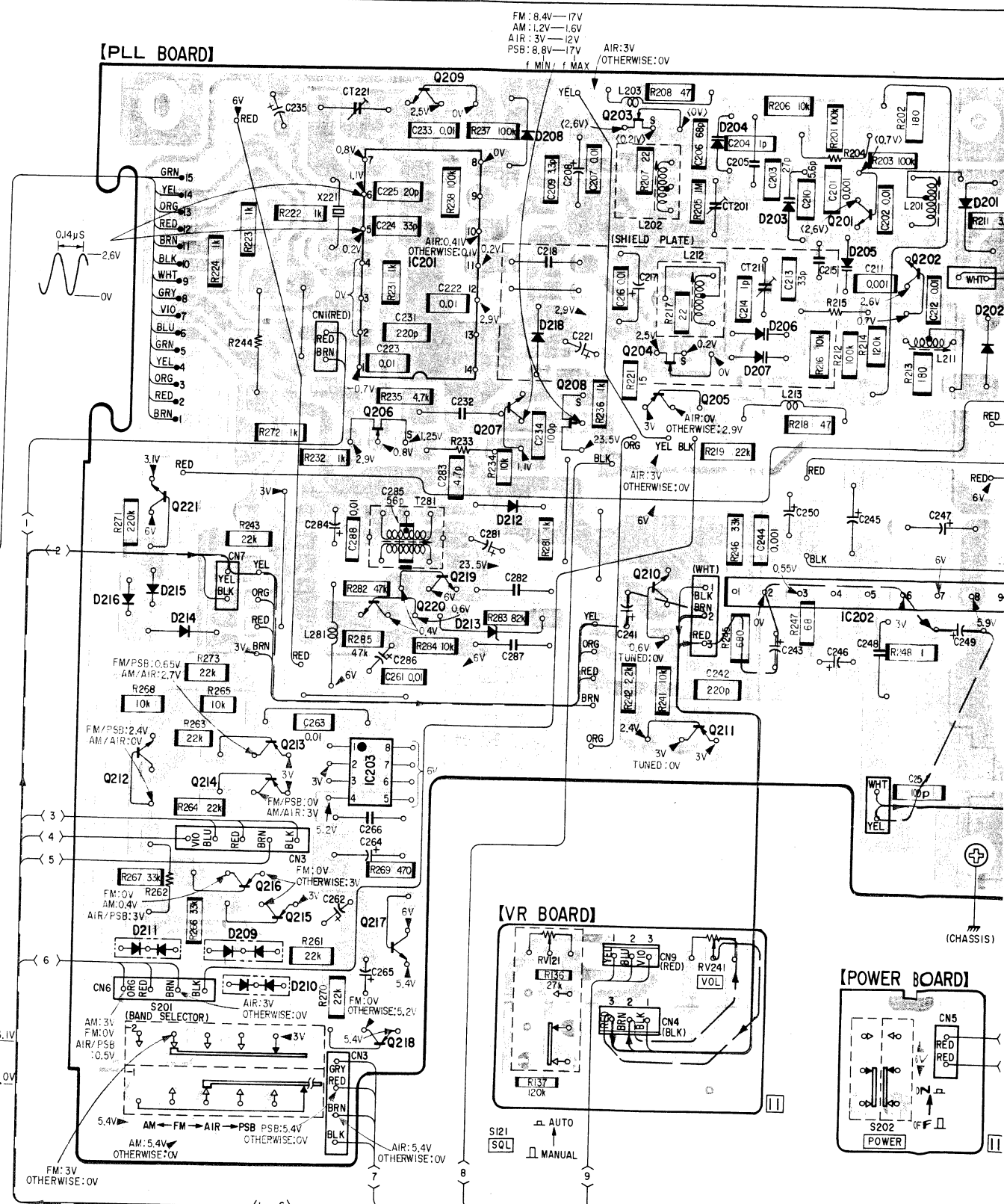
- : parts extracted from the component side.
- : parts extracted from the conductor side.
- : part mounted on the conductor side.
- : indicates side identified with part number.
- : signal path
- ⋯ : B + pattern

[KEY BOARD]

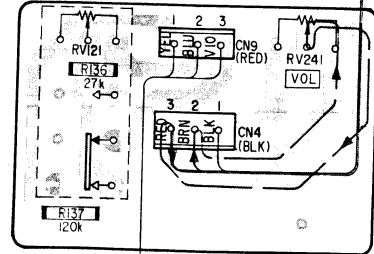


NDI (LCD)

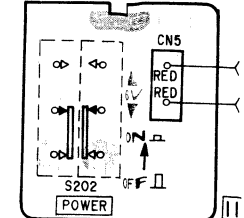
[PLL BOARD]



[VR BOARD]

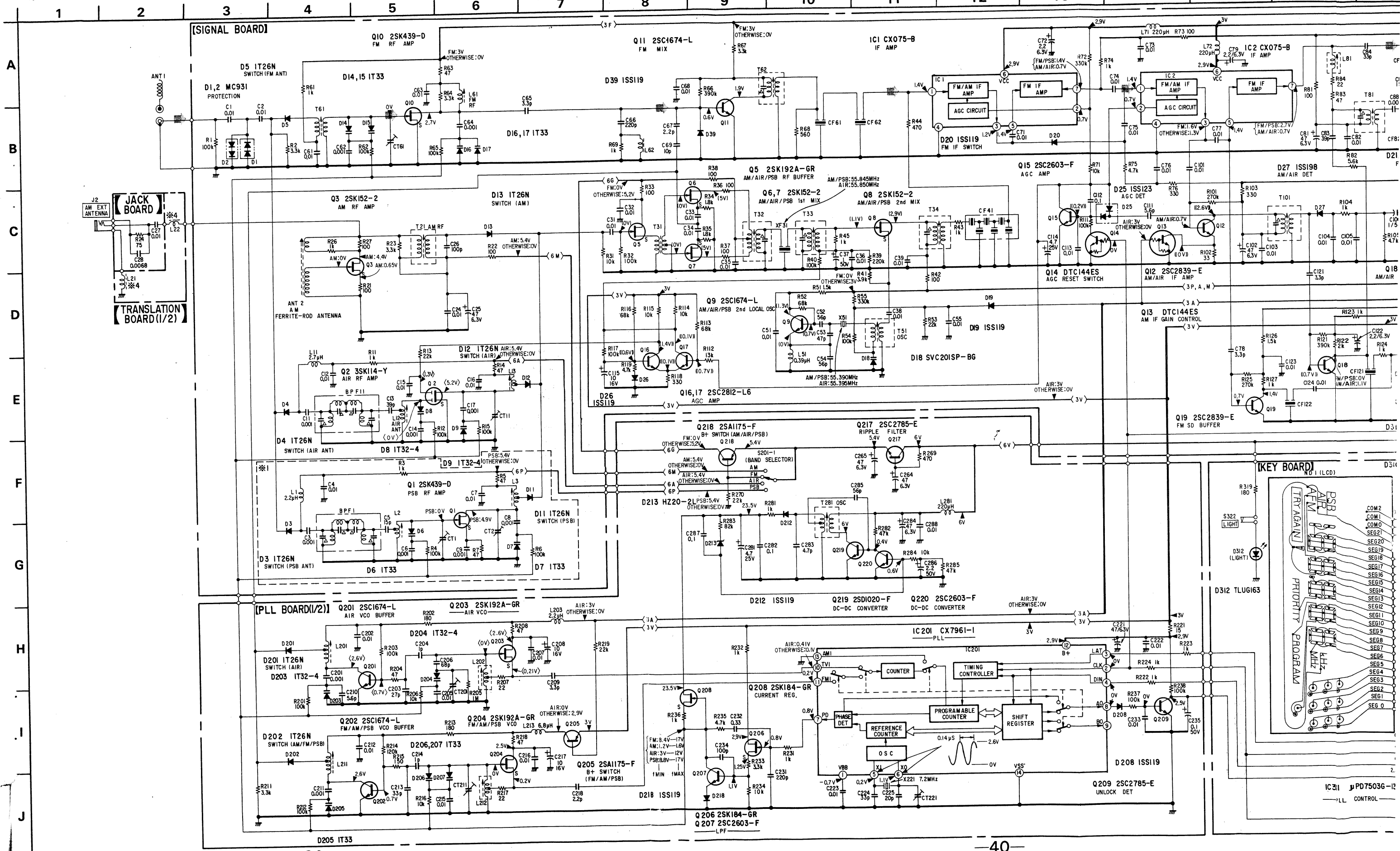


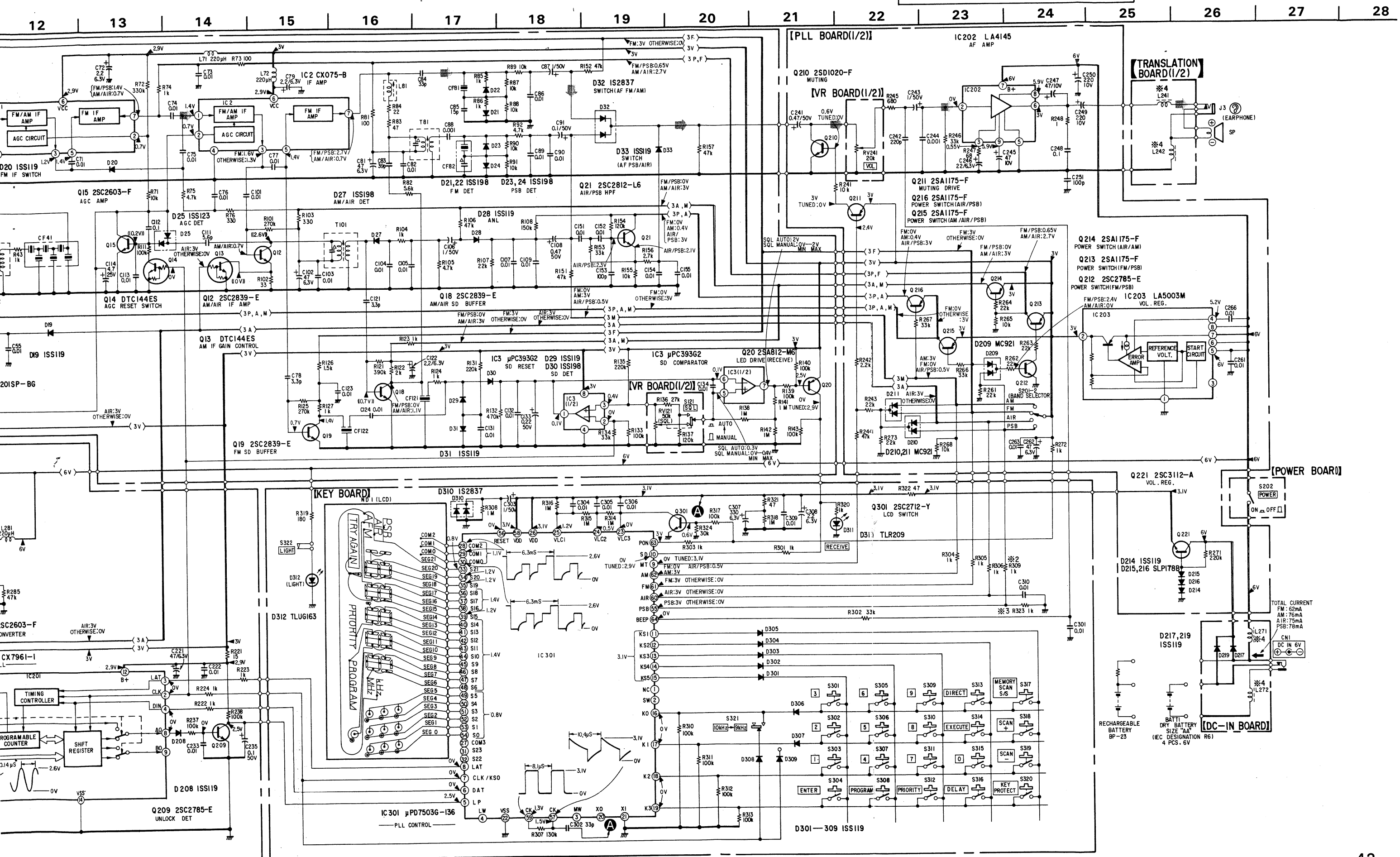
[POWER BOARD]

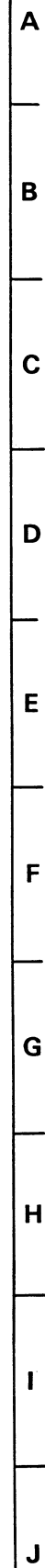


AIR-7/8 AIR-7/8

4-4. SCHEMATIC DIAGRAM







- Switch

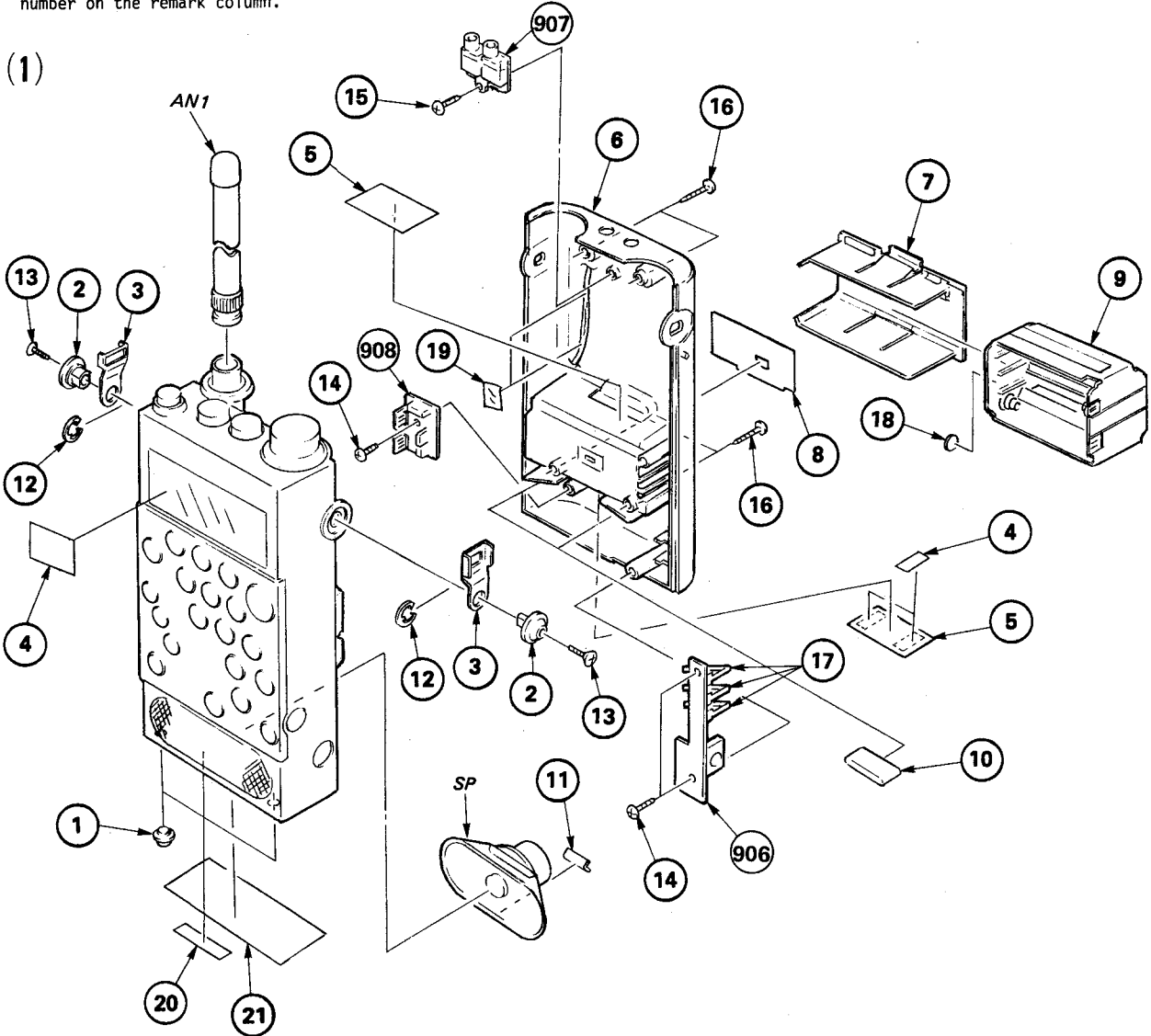
NOTE:

Parts marked ※ 1 to 4 differ from each model.

	AIR-7		AIR-8
	AEP-1, E model	Canadian, AEP-2 model	
*1 (PSB RF CIRCUIT)	mounted on PC board, but not used	used	
*2 (R309)	not mounted	mounted	
*3 (R323)	mounted	not mounted	
*4 (L21, 22, 241, 242, 271, 272)	shorted		mounted

SECTION 5
EXPLODED VIEWS

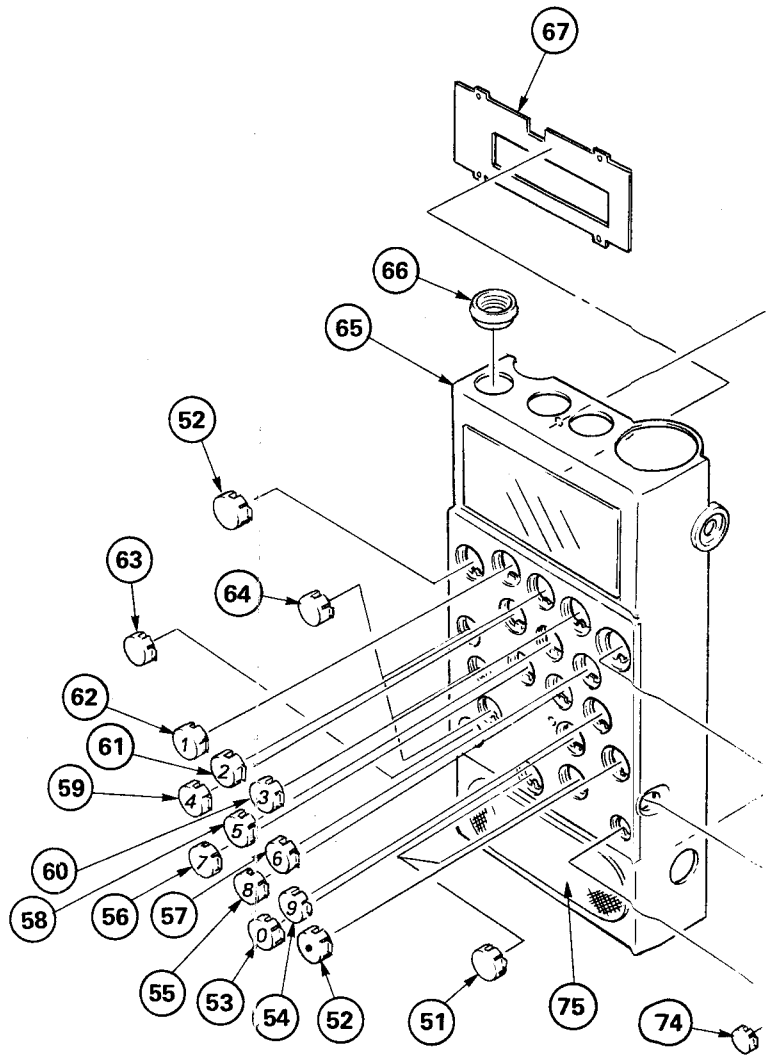
NOTE:
• The mechanical parts with no reference number in the exploded views are not supplied.
• Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
• The construction parts of an assembled part are indicated with a collation number on the remark column.



No.	Part No.	Description
1	3-427-542-00	STOPER
2	3-893-726-01	COLLAR, BELT
3	3-893-730-01	BRACKET, BELT
4	*3-703-709-01	STICKER, SONY SYMBOL (15)
5	3-893-722-01	PLATE, BLIND
6	3-893-710-01	LID, REAR, CABINET
7	3-893-706-01	HOLDER, BATTERY
8	3-893-736-01	LABEL, STEP, MW CH
9	X-3564-820-0	HOLDER ASSY, BATTERY
10	3-881-931-00	CUSHION, SPEAKER
11	9-911-838-XX	CUSHION, SPEAKER
12	7-624-109-04	STOP RING 5.0, TYPE -E
13	7-621-662-80	SCREW +RK 2.6X12

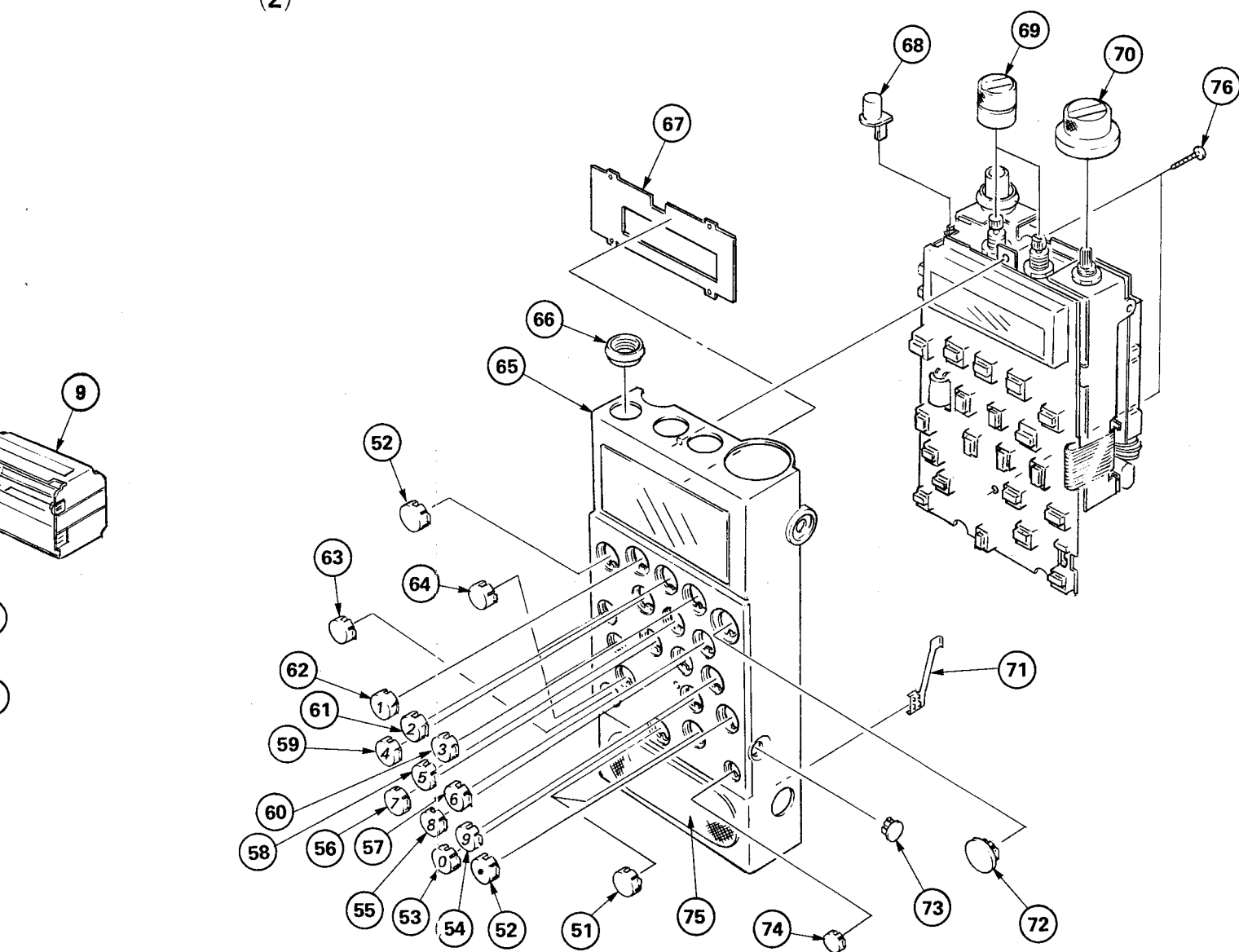
No.	Part No.	Description	REMARKS
14	7-685-134-14	SCREW +P 2.6X8 TYPE2 SLIT	
15	7-621-773-86	SCREW +P 2.6X4	
16	7-621-284-30	+P 2.6X8	
17	3-893-723-01	PLATE, POLE	
18	3-527-126-00	MARK, BATTERY CASE	
19	3-831-441-XX	CUSHION	
20	3-701-999-00	LABEL, SERIAL NUMBER	
21	3-893-735-01	(Canadian,AEP-2)...LABEL, MODEL NUMBER	
	3-893-738-01	(AEP-1,E).....LABEL, MODEL NUMBER	
	3-893-747-01	(AIR-8).....LABEL, MODEL NUMBER (U)	
906	*1-613-291-11	PC BOARD, DC-IN	
907	*1-613-292-11	PC BOARD, JACK	
908	*1-613-293-11	PC BOARD, TRANSLATION	

(2)



No.	Part No.	Description	REMARKS	No.	Part No.	Description	REMARKS
51	3-893-704-11	BUTTON (B), MEMORY		65	X-		
52	3-893-704-01	BUTTON (B), MEMORY			X-		
53	3-893-703-01	BUTTON (A), MEMORY			X-		
54	3-893-703-91	BUTTON (A), MEMORY		66	3-		
55	3-893-703-81	BUTTON (A), MEMORY		67	3-		
56	3-893-703-71	BUTTON (A), MEMORY			3-		
57	3-893-703-61	BUTTON (A), MEMORY		68	3-		
58	3-893-703-51	BUTTON (A), MEMORY		69	3-		
59	3-893-703-41	BUTTON (A), MEMORY		70	3-		
60	3-893-703-31	BUTTON (A), MEMORY		71	3-		
61	3-893-703-21	BUTTON (A), MEMORY		72	3-		
62	3-893-703-11	BUTTON (A), MEMORY		73	3-		
63	3-893-716-11	BUTTON, DOUBLE KEY		74	3-		
64	3-893-716-01	BUTTON, DOUBLE KEY		75	3-		
				76	7-		

(2)



REMARKS

LIT.

L, MODEL NUMBER

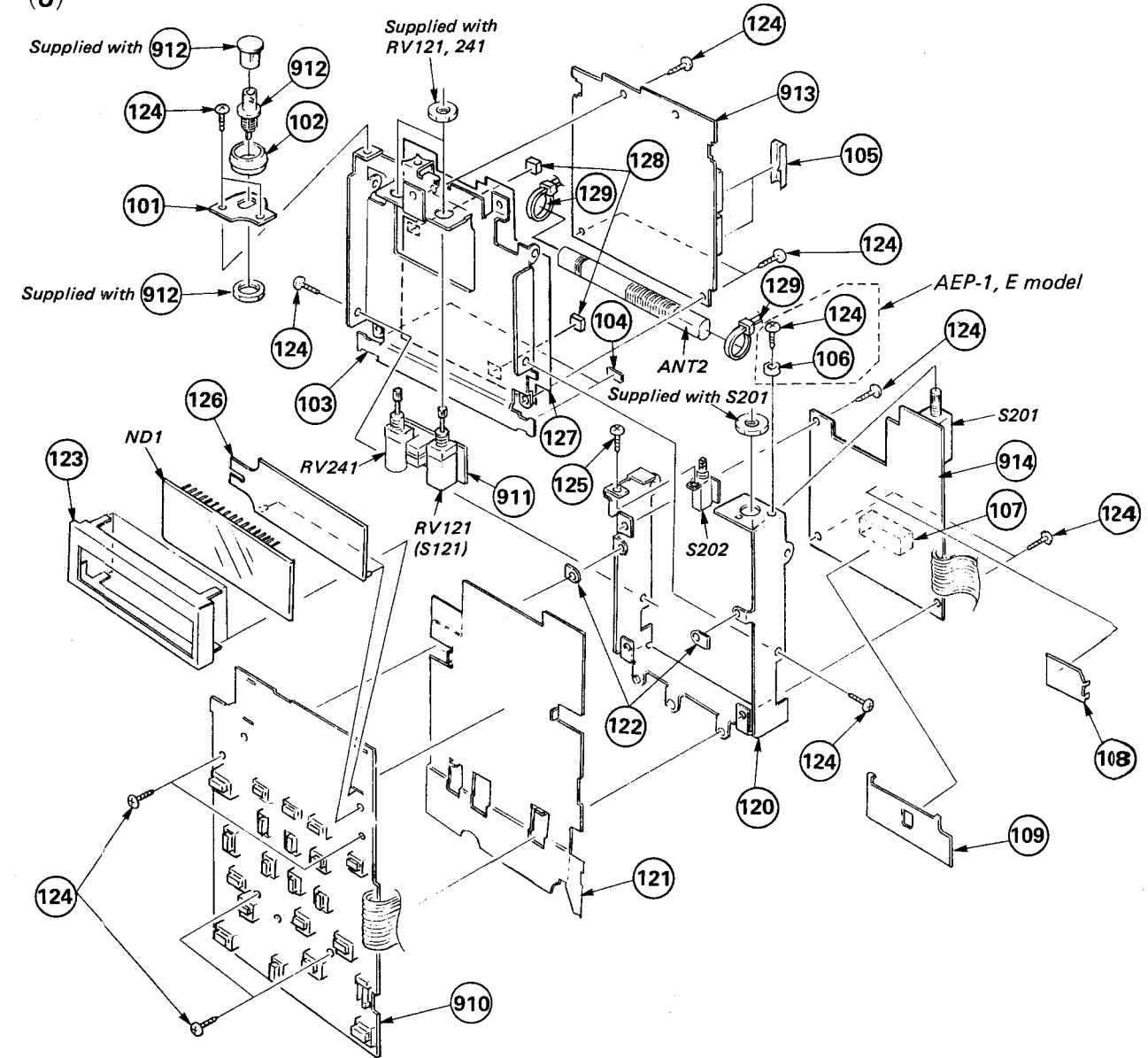
L, MODEL NUMBER

L NUMBER (U)

No.	Part No.	Description	REMARKS
51	3-893-704-11	BUTTON (B), MEMORY	
52	3-893-704-01	BUTTON (B), MEMORY	
53	3-893-703-01	BUTTON (A), MEMORY	
54	3-893-703-91	BUTTON (A), MEMORY	
55	3-893-703-81	BUTTON (A), MEMORY	
56	3-893-703-71	BUTTON (A), MEMORY	
57	3-893-703-61	BUTTON (A), MEMORY	
58	3-893-703-51	BUTTON (A), MEMORY	
59	3-893-703-41	BUTTON (A), MEMORY	
60	3-893-703-31	BUTTON (A), MEMORY	
61	3-893-703-21	BUTTON (A), MEMORY	
62	3-893-703-11	BUTTON (A), MEMORY	
63	3-893-716-11	BUTTON, DOUBLE KEY	
64	3-893-716-01	BUTTON, DOUBLE KEY	

No.	Part No.	Description	REMARKS
65	X-3893-702-1	(Canadian,AEP-2)...CABINET (FRONT) ASSY	
	X-3893-704-1	(AEP-1,E)...CABINET (FRONT) ASSY	
	X-3893-706-1	(AIR-8)...CABINET (FRONT) ASSY	
66	3-893-728-01	RING, POWER	
67	3-893-725-01	(AIR-8,Canadian,AEP-2)...PLATE, BACK	
	3-893-725-11	(AEP-1,E).....PLATE, BACK	
68	3-893-714-01	BUTTON (POWER)	
69	3-893-713-01	KNOB (A)	
70	3-893-702-01	KNOB (B)	
71	3-893-727-01	SPRING	
72	3-893-715-01	BUTTON, S/S	
73	3-893-717-11	BUTTON, KP	
74	3-893-717-01	BUTTON, KP	
75	3-893-718-01	PANEL, SPEAKER	
76	7-621-284-30	SCREW +P 2.6X8	

(3)

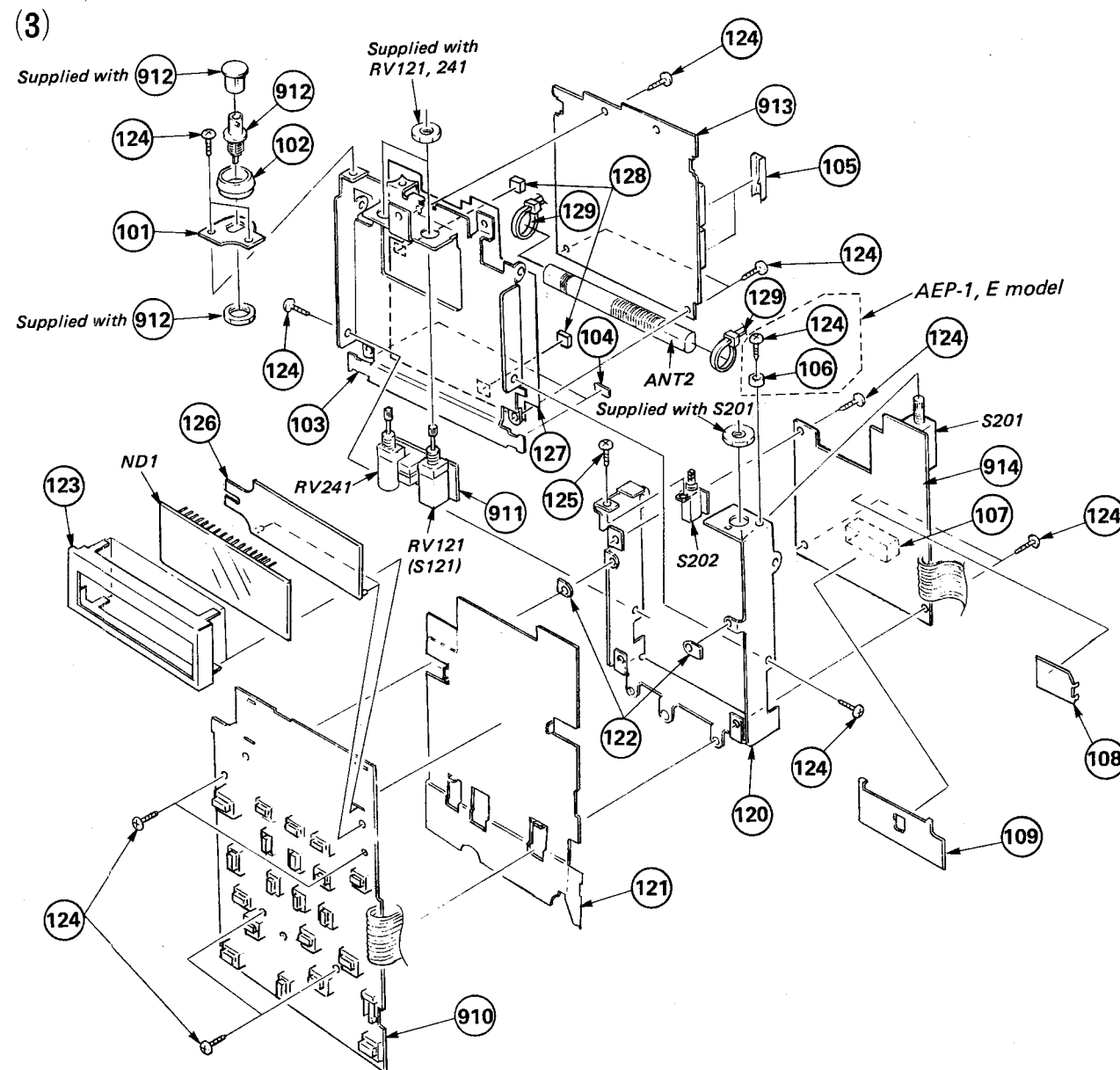


No.	Part No.	Description	REMARKS
101	*3-893-720-01	HOLDER, ANTENNA	
102	3-893-719-01	RING, ANTENNA	
103	*3-893-711-01	CHASSIS (A)	
104	9-911-838-XX	CUSHION, SPEAKER	
105	*3-893-734-01	PLATE (I), SHIELD	
106	3-893-733-01	(AEP-1,E)...STOPPER, COLLER	
107	*3-893-751-01	PLATE (VM), SHIELD	
108	*X-3893-705-1	PLATE (D) ASSY, SHIELD	
109	*X-3893-703-1	PLATE (V) ASSY, SHIELD	
120	*3-893-712-01	CHASSIS (B)	
121	*X-3893-701-1	PLATE (K) ASSY, SHIELD	
122	*3-893-750-01	INSULATOR (K)	

No.	Part No.	Description	REMARKS
123	*3-893-724-01	PLATE (L), SHIELD	
124	7-621-773-86	SCREW +P 2.6X4	
125	7-621-255-25	SCREW +P 2X4	
126	*3-893-721-01	CHIP, ILLUMINATION	
127	*3-893-755-01	INSULATOR (C)	
128	9-911-840-XX	SPACER, RUBBER	
129	*3-671-893-00	CLAMP (LOW TYPE)	
910	*1-613-296-11	PC BOARD, KEY	
911	*1-613-297-11	PC BOARD, VR	
912	1-562-261-21	CONNECTOR, COAXIAL (BNC)	
913	*A-3660-519-A	MOUNTED PCB, SIGNAL	
914	*A-3661-009-A	MOUNTED PCB, PLL	

SECTION 6

ELECTRICAL PARTS LIST



NOTE :

NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.

Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

If there are two or more same circuits in a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:

MF: μF , PF: μF .

REISITORS

- All resistors are in ohms.
- F : nonflammable

COILS

COILS
- MMU

• MMH : mH, OH : pH

SEMICONDUCTORS

In each case, $U : \mu$, for example:

$$U_A \dots: \mu A \dots, U_{PA} \dots: \mu PA \dots,$$

UPC...: μPC ,

UPD...: UPD...

ELECTRICAL PARTS

Ref.No.	Part No.	Description		
901	*1-508-995-00	PIN, CONNECTOR		
902	*1-560-456-00	PIN, CONNECTOR 2P		
903	*1-560-466-00	PIN, CONNECTOR 3P		
904			
905	*1-560-467-00	PIN, CONNECTOR 4P		
906	*1-613-291-11	PC BOARD, DC-IN		
907	*1-613-292-11	PC BOARD, JACK		
908	*1-613-293-11	PC BOARD, TRANSLATION		
909			
910	*1-613-296-11	PC BOARD, KEY		
911	*1-613-297-11	PC BOARD, VR		
912	1-562-261-21	CONNECTOR, COAXIAL (BNC)		
913	*A-3660-519-A	MOUNTED PCB, SIGNAL		
914	*A-3661-009-A	MOUNTED PCB, PLL		
ANT1	1-501-322-11	ANTENNA		
ANT2	1-402-120-11	ANTENNA, FERRITE-ROD(AM)		
BPF1	1-235-401-11	FILTER, BAND PASS		
BPF11	1-235-402-11	FILTER, BAND PASS		
C1	1-163-059-00	CERAMIC(CHIP)0.01MF	30%	16V
C2	1-163-059-00	CERAMIC(CHIP)0.01MF	30%	16V
C3	1-163-205-00	CERAMIC(CHIP)0.001MF	10%	50V
C4	1-163-059-00	CERAMIC(CHIP)0.01MF	30%	16V
C5	1-163-161-00	CERAMIC(CHIP)15PF	5%	50V
C6	1-163-205-00	CERAMIC(CHIP)0.001MF	10%	50V
C7	1-163-059-00	CERAMIC(CHIP)0.01MF	30%	16V
C8	1-163-205-00	CERAMIC(CHIP)0.001MF	10%	50V
C9	1-162-110-00	CERAMIC	10%	50V
C11	1-163-205-00	CERAMIC(CHIP)0.001MF	10%	50V
C12	1-163-059-00	CERAMIC(CHIP)0.01MF	30%	16V
C13	1-163-171-00	CERAMIC(CHIP)39PF	5%	50V
C14	1-163-205-00	CERAMIC(CHIP)0.001MF	10%	50V
C15	1-163-059-00	CERAMIC(CHIP)0.01MF	30%	16V
C16	1-163-059-00	CERAMIC(CHIP)0.01MF	30%	16V
C17	1-163-205-00	CERAMIC(CHIP)0.001MF	10%	50V
C24	1-163-059-00	CERAMIC(CHIP)0.01MF	30%	16V
C25	1-123-647-00	ELECT 47MF	20%	6.3V
C26	1-163-181-00	CERAMIC(CHIP)100PF	10%	50V
C27	1-163-059-00	CERAMIC(CHIP)0.01MF	30%	16V
C28	1-162-402-11	CERAMIC	30%	16V
C31	1-163-059-00	CERAMIC(CHIP)0.01MF	30%	16V
C32	1-163-059-00	CERAMIC(CHIP)0.01MF	30%	16V
C33	1-163-059-00	CERAMIC(CHIP)0.01MF	30%	16V
C34	1-163-059-00	CERAMIC(CHIP)0.01MF	30%	16V
C35	1-161-032-00	CERAMIC(CHIP)0.01MF	20%	25V
C36	1-163-059-00	CERAMIC(CHIP)0.01MF	30%	16V

ELECTRICAL PARTS

Ref.No.	Part No.	Description		
C37	1-123-611-00	ELECT	1MF	20% 50V
C38	1-163-059-00	CERAMIC(CHIP)	0.01MF	30% 16V
C39	1-163-059-00	CERAMIC(CHIP)	0.01MF	30% 16V
C51	1-163-059-00	CERAMIC(CHIP)	0.01MF	30% 16V
C52	1-163-175-00	CERAMIC(CHIP)	56PF	5% 50V
C53	1-163-173-00	CERAMIC(CHIP)	47PF	5% 50V
C54	1-163-175-00	CERAMIC(CHIP)	56PF	5% 50V
C55	1-163-059-00	CERAMIC(CHIP)	0.01MF	30% 16V
C61	1-163-059-00	CERAMIC(CHIP)	0.01MF	30% 16V
C62	1-163-205-00	CERAMIC(CHIP)	0.001MF	10% 50V
C63	1-163-059-00	CERAMIC(CHIP)	0.01MF	30% 16V
C64	1-163-205-00	CERAMIC(CHIP)	0.001MF	10% 50V
C65	1-162-327-00	CERAMIC(CHIP)	3.3PF	10% 50V
C66	1-163-189-00	CERAMIC(CHIP)	220PF	10% 50V
C67	1-162-325-00	CERAMIC(CHIP)	2.2PF	10% 50V
C68	1-163-059-00	CERAMIC	0.01MF	30% 16V
C69	1-162-199-31	CERAMIC	10PF	5% 50V
C71	1-162-306-31	CERAMIC(CHIP)	0.01MF	20% 16V
C72	1-135-099-00	TANTAL(CHIP)	2.2MF	20% 6.3V
C73	1-163-059-00	CERAMIC(CHIP)	0.01MF	30% 16V
C74	1-163-059-00	CERAMIC(CHIP)	0.01MF	30% 16V
C75	1-163-059-00	CERAMIC(CHIP)	0.01MF	30% 16V
C76	1-163-059-00	CERAMIC(CHIP)	0.01MF	30% 16V
C77	1-162-306-31	CERAMIC	0.01MF	20% 16V
C78	1-162-327-00	CERAMIC	3.3PF	10% 50V
C79	1-135-099-00	TANTAL(CHIP)	2.2MF	20% 6.3V
C81	1-123-647-00	ELECT	47MF	20% 6.3V
C82	1-163-059-00	CERAMIC(CHIP)	0.01MF	30% 16V
C83	1-162-213-31	CERAMIC	39PF	5% 50V
C84	1-163-169-00	CERAMIC(CHIP)	33PF	5% 50V
C85	1-163-161-00	CERAMIC(CHIP)	15PF	5% 50V
C86	1-163-059-00	CERAMIC(CHIP)	0.01MF	30% 16V
C87	1-123-611-00	ELECT	1MF	20% 50V
C88	1-163-205-00	CERAMIC(CHIP)	0.001MF	10% 50V
C89	1-163-059-00	CERAMIC(CHIP)	0.01MF	30% 16V
C90	1-163-059-00	CERAMIC(CHIP)	0.01MF	30% 16V
C91	1-123-607-00	ELECT	0.1MF	20% 50V
C101	1-163-059-00	CERAMIC(CHIP)	0.01MF	30% 16V
C102	1-123-647-00	ELECT	47MF	20% 6.3V
C103	1-163-059-00	CERAMIC(CHIP)	0.01MF	30% 16V
C104	1-162-306-31	CERAMIC	0.01MF	10% 16V
C105	1-163-059-00	CERAMIC(CHIP)	0.01MF	30% 16V
C106	1-123-611-00	ELECT	1MF	10% 50V
C107	1-163-059-00	CERAMIC(CHIP)	0.01MF	10% 16V
C108	1-123-610-00	ELECT	0.47MF	10% 50V

		REMARKS
ET	(FRONT) ASSY	
T)	ASSY	
T)	ASSY	

PLATE, BACK
BACK

REMARKS

No.	Part No.	Description
101	*3-893-720-01	HOLDER, ANTENNA
102	3-893-719-01	RING, ANTENNA
103	*3-893-711-01	CHASSIS (A)
104	9-111-838-XX	CUSHION, SPEAKER
105	*3-893-734-01	PLATE (I), SHIELD
106	3-893-733-01	(AEP-1,E)...STOPPER, COLLER
107	*3-893-751-01	PLATE (VM), SHIELD
108	*X-3893-705-1	PLATE (D) ASSY, SHIELD
109	*X-3893-703-1	PLATE (V) ASSY, SHIELD
120	*3-893-712-01	CHASSIS (B)
121	*X-3893-701-1	PLATE (K) ASSY, SHIELD
122	*3-893-750-01	INSULATOR (K)

REMARKS

No.	Part No.	Description
123	*3-893-724-01	PLATE (L), SHIELD
124	7-621-773-86	SCREW +P 2.6X4
125	7-621-255-25	SCREW +P 2X4
126	*3-893-721-01	CHIP, ILLUMINATION
127	*3-893-755-01	INSULATOR (C)
128	9-911-840-XX	SPACER, RUBBER
129	*3-671-893-00	CLAMP (LOW TYPE)
910	*1-613-296-11	PC BOARD, KEY
911	*1-613-297-11	PC BOARD, VR
912	1-562-261-21	CONNECTOR, COAXIAL (BNC)
913	*A-3660-519-A	MOUNTED PCB, SIGNAL
914	*A-3661-009-A	MOUNTED PCB, PLL

REMARKS

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
C109	1-163-059-00	CERAMIC(CHIP)0.01MF	30%	16V	
C111	1-162-330-00	CERAMIC 5.6PF	10%	50V	
C112	1-136-165-00	FILM 0.1MF	5%	50V	
C113	1-163-059-00	CERAMIC(CHIP)0.01MF	30%	16V	
C114	1-123-616-00	ELECT 4.7MF	20%	25V	
C115	1-123-617-00	ELECT 10MF	20%	16V	
C121	1-162-327-00	CERAMIC 3.3PF	10%	50V	
C122	1-135-099-00	TANTAL(CHIP) 2.2MF	20%	6.3V	
C123	1-163-059-00	CERAMIC(CHIP)0.01MF	30%	16V	
C124	1-163-059-00	CERAMIC(CHIP)0.01MF	30%	16V	
C131	1-163-059-00	CERAMIC(CHIP)0.01MF	30%	16V	
C132	1-163-059-00	CERAMIC(CHIP)0.01MF	30%	16V	
C133	1-123-608-00	ELECT 0.22MF	20%	50V	
C134	1-162-306-31	CERAMIC 0.01MF	20%	16V	
C151	1-163-059-00	CERAMIC(CHIP)0.01MF	30%	16V	
C152	1-163-059-00	CERAMIC(CHIP)0.01MF	30%	16V	
C153	1-162-282-31	CERAMIC 100PF	10%	50V	
C154	1-163-059-00	CERAMIC(CHIP)0.01MF	30%	16V	
C155	1-163-059-00	CERAMIC(CHIP)0.01MF	30%	16V	
C201	1-163-205-00	CERAMIC(CHIP)0.001MF	10%	50V	
C202	1-163-059-00	CERAMIC(CHIP)0.01MF	30%	16V	
C203	1-163-167-00	CERAMIC(CHIP)27PF	5%	50V	
C204	1-163-147-00	CERAMIC(CHIP)1PF	20%	50V	
C205	1-161-013-00	CERAMIC 0.01MF	10%	25V	
C206	1-162-190-31	CERAMIC 68PF	5%	50V	
C207	1-163-059-00	CERAMIC(CHIP)0.01MF	30%	16V	
C208	1-123-617-00	ELECT 10MF	20%	16V	
C209	1-162-327-00	CERAMIC 3.3PF	10%	50V	
C210	1-162-330-00	CERAMIC 5.6PF	10%	50V	
C211	1-163-205-00	CERAMIC(CHIP)0.001MF	10%	50V	
C212	1-163-059-00	CERAMIC(CHIP)0.01MF	30%	16V	
C213	1-163-169-00	CERAMIC(CHIP)33PF	5%	50V	
C214	1-163-147-00	CERAMIC(CHIP)1PF	20%	50V	
C215	1-161-013-00	CERAMIC 0.01MF	10%	25V	
C216	1-163-059-00	CERAMIC(CHIP)0.01MF	30%	16V	
C217	1-123-617-00	ELECT 10MF	20%	16V	
C218	1-162-191-31	CERAMIC 2.2PF	10%	50V	
C221	1-123-647-00	ELECT 47MF	20%	6.3V	
C222	1-163-059-00	CERAMIC(CHIP)0.01MF	30%	16V	
C223	1-163-059-00	CERAMIC(CHIP)0.01MF	30%	16V	
C224	1-163-169-00	CERAMIC(CHIP)33PF	5%	50V	
C225	1-163-164-00	CERAMIC 20PF	5%	50V	
C231	1-163-189-00	CERAMIC(CHIP)220PF	10%	50V	
C232	1-136-171-00	FILM 0.33MF	5%	50V	
C233	1-163-059-00	CERAMIC(CHIP)0.01MF	30%	16V	

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
C234	1-163-181-00	CERAMIC(CHIP)100PF	10%	50V	
C235	1-123-607-00	ELECT 0.1MF	20%	50V	
C241	1-123-610-00	ELECT 0.47MF	20%	50V	
C242	1-163-189-00	CERAMIC(CHIP)220PF	10%	50V	
C243	1-123-611-00	ELECT 1MF	20%	50V	
C244	1-163-205-00	CERAMIC(CHIP)0.001MF	10%	50V	
C245	1-123-822-00	ELECT 47MF	20%	10V	
C246	1-123-618-00	ELECT 22MF	20%	6.3V	
C247	1-123-822-00	ELECT 47MF	20%	10V	
C248	1-136-165-00	FILM 0.1MF	5%	50V	
C249	1-123-308-00	ELECT 220MF	20%	10V	
C250	1-123-308-00	ELECT 220MF	20%	10V	
C251	1-163-181-00	CERAMIC(CHIP)100PF	10%	50V	
C261	1-163-059-00	CERAMIC(CHIP)0.01MF	30%	16V	
C262	1-123-647-00	ELECT 47MF	20%	6.3V	
C263	1-163-059-00	CERAMIC(CHIP)0.01MF	30%	16V	
C264	1-123-647-00	ELECT 47MF	20%	6.3V	
C265	1-123-647-00	ELECT 47MF	20%	6.3V	
C266	1-162-306-31	CERAMIC 0.01MF	20%	16V	
C281	1-123-616-00	ELECT 4.7MF	20%	25V	
C282	1-136-165-00	FILM 0.1MF	5%	50V	
C283	1-162-329-00	CERAMIC 4.7PF	10%	50V	
C284	1-123-647-00	ELECT 47MF	20%	6.3V	
C285	1-163-175-00	CERAMIC 56PF	5%	50V	
C286	1-123-612-00	ELECT 2.2MF	20%	50V	
C287	1-136-165-00	FILM 0.1MF	5%	50V	
C288	1-163-059-00	CERAMIC(CHIP)0.01MF	30%	16V	
C301	1-163-059-00	CERAMIC(CHIP)0.01MF	30%	16V	
C302	1-163-169-00	CERAMIC(CHIP)33PF	5%	50V	
C303	1-123-611-00	ELECT 1MF	20%	50V	
C304	1-163-059-00	CERAMIC(CHIP)0.01MF	30%	16V	
C305	1-163-059-00	CERAMIC(CHIP)0.01MF	30%	16V	
C306	1-163-059-00	CERAMIC(CHIP)0.01MF	30%	16V	
C307	1-123-297-00	ELECT 330MF	20%	6.3V	
C308	1-135-099-00	TANTAL. CHIP 2.2MF	20%	6.3V	
C309	1-163-059-00	CERAMIC(CHIP)0.01MF	30%	16V	
C310	1-163-059-00	CERAMIC(CHIP)0.01MF	30%	16V	
CF41	1-527-392-00	FILTER, CERAMIC			
CF61	1-527-795-71	FILTER, CERAMIC			
CF62	1-527-795-71	FILTER, CERAMIC			
CF81	1-567-050-00	FILTER, CERAMIC			
CF82	1-567-308-11	FILTER, CERAMIC			
CF121	1-527-290-00	FILTER, CERAMIC			
CF122	1-527-483-00	FILTER, CERAMIC			
CN1	1-507-459-00	JACK, DC IN 6V			

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
CT1	1-141-272-00	CAP, TRIMMER			
CT2	1-141-272-00	CAP, TRIMMER			
CT11	1-141-257-00	CAP, TRIMMER			
CT61	1-141-257-00	CAP, TRIMMER			
CT201	1-141-272-00	CAP, TRIMMER			
CT211	1-141-293-11	CAP, TRIMMER			
CT221	1-141-227-00	TRIMMER, CERAMIC			
D1	8-719-000-12	DIODE MC931			
D2	8-719-000-12	DIODE MC931			
D3	8-719-104-15	DIODE 1T26N			
D4	8-719-104-15	DIODE 1T26N			
D5	8-719-104-15	DIODE 1T26N			
D6	8-713-309-00	DIODE 1T33-09			
D7	8-713-309-00	DIODE 1T33-09			
D8	8-713-240-00	DIODE 1T32-4			
D9	8-713-240-00	DIODE 1T32-4			
D11	8-719-104-15	DIODE 1T26N			
D12	8-719-104-15	DIODE 1T26N			
D13	8-719-104-15	DIODE 1T26N			
D14	8-713-309-00	DIODE 1T33-09			
D15	8-713-309-00	DIODE 1T33-09			
D16	8-713-309-00	DIODE 1T33-09			
D17	8-713-309-00	DIODE 1T33-09			
D18	8-719-912-03	DIODE SVC201SP-BG			
D19	8-719-911-19	DIODE 1SS119			
D20	8-719-911-19	DIODE 1SS119			
D21	8-719-918-88	DIODE 1SS198			
D22	8-719-918-88	DIODE 1SS198			
D23	8-719-918-88	DIODE 1SS198			
D24	8-719-918-88	DIODE 1SS198			
D25	8-719-101-23	DIODE 1SS123			
D26	8-719-911-19	DIODE 1SS119			
D27	8-719-918-88	DIODE 1SS198			
D28	8-719-911-19	DIODE 1SS119			
D29	8-719-911-19	DIODE 1SS119			
D30	8-719-918-88	DIODE 1SS198			
D31	8-719-911-19	DIODE 1SS119			
D32	8-719-100-05	DIODE 1S2837			
D33	8-719-911-19	DIODE 1SS119			
D39	8-719-911-19	DIODE 1SS119			
D201	8-719-104-15	DIODE 1T26N			
D202	8-719-104-15	DIODE 1T26N			
D203	8-713-240-00	DIODE 1T32-4			
D204	8-713-240-00	DIODE 1T32-4			
D205	8-713-309-00	DIODE 1T33-09			
D206	8-713-309-00	DIODE 1T33-09			

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
D207	8-713-309-00	DIODE 1T33-09			
D208	8-719-911-19	DIODE 1SS119			
D209	8-719-000-06	DIODE MC921			
D210	8-719-000-06	DIODE MC921			
D211	8-719-000-06	DIODE MC921			
D212	8-719-911-19	DIODE 1SS119			
D213	8-719-910-03	DIODE HZ20-3L			
D214	8-719-911-19	DIODE 1SS119			
D215	8-719-912-43	DIODE SLP178B			
D216	8-719-912-43	DIODE SLP178B			
D217	8-719-911-19	DIODE 1SS119			
D218	8-719-911-19	DIODE 1SS119			
D219	9-719-911-19	DIODE 1SS119			
D301	8-719-911-19	DIODE 1SS119			
D302	8-719-911-19	DIODE 1SS119			
D303	8-719-911-19	DIODE 1SS119			
D304	8-719-911-19	DIODE 1SS119			
D305	8-719-911-19	DIODE 1SS119			
D306	8-719-911-19	DIODE 1SS119			
D307	8-719-911-19	DIODE 1SS119			
D308	8-719-911-19	DIODE 1SS119			
D309	8-719-911-19	DIODE 1SS119			
D310	8-719-100-05	DIODE 1S2837			
D311	8-719-800-67	DIODE TLR209			
D312	8-719-800-14	DIODE TLUG163			
IC1	8-759-600-75	IC CX-075B			
IC2	8-759-600-75	IC CX-075B			
IC3	8-759-100-93	IC UPC393G2			
IC201	8-757-961-01	IC CX-7961-1			
IC202	8-759-801-65	IC LA4145			
IC203	8-759-801-15	IC LA5003M			
IC301	8-759-102-04	IC UPD7503G-136			
J2	1-507-917-00	JACK, AM EXT ANTENNA			
J3	1-507-921-00	JACK, EARPHONE			
L1	1-410-013-11	MICRO INDUCTOR 2.2UH			
L2	1-459-551-11	COIL (WITH CORE)			
L3	1-459-556-11	COIL (WITH CORE)			
L11	1-410-014-11	MICRO INDUCTOR 2.7UH			
L12	1-459-558-11	COIL (WITH CORE)			
L13	1-459-559-11	COIL (WITH CORE)			
L21	1-407-882-00	(AIR-8)....COIL			
L22	1-407-882-00	(AIR-8)....COIL			
L51	1-408-903-11	MICRO INDUCTOR 0.39UH			
L61	1-459-555-11	COIL (WITH CORE)			
L62	1-407-882-00	COIL			
L71	1-408-579-31	MICRO INDUCTOR 220UH			

ELECTRICAL PARTS

Ref.No.	Part No.	Description
L72	1-408-579-31	MICRO INDUCTOR 220UH
L81	1-404-567-11	TRANSFORMER, IF
L201	1-459-553-11	COIL (WITH CORE)
L202	1-459-552-11	COIL (WITH CORE)
L203	1-408-555-00	MICRO INDUCTOR 2.2UH
L211	1-459-554-11	COIL (WITH CORE)
L212	1-459-550-11	COIL
L213	1-408-561-11	MICRO INDUCTOR 6.8UH
L241	1-407-882-00	(AIR-8)...COIL
L242	1-407-882-00	(AIR-8)...COIL
L271	1-407-882-00	(AIR-8)...COIL
L272	1-407-882-00	(AIR-8)...COIL
L281	1-408-579-31	MICRO INDUCTOR 220UH
ND1	1-806-918-11	DISPLAY PANEL, LIQUID CRYSTAL
Q1	8-729-301-27	TRANSISTOR 2SK439-D
Q2	8-729-203-19	TRANSISTOR 3SK114-Y
Q3	8-729-800-42	TRANSISTOR 2SK152-2
Q5	8-729-200-66	TRANSISTOR 2SK192A-GR
Q6	8-729-800-42	TRANSISTOR 2SK152-2
Q7	8-729-800-42	TRANSISTOR 2SK152-2
Q8	8-729-800-42	TRANSISTOR 2SK152-2
Q9	8-729-178-62	TRANSISTOR 2SC2786-L
Q10	8-729-301-27	TRANSISTOR 2SK439-D
Q11	8-729-178-62	TRANSISTOR 2SC2786-L
Q12	8-729-883-92	TRANSISTOR 2SC2839-E
Q13	8-729-900-89	TRANSISTOR DTC144ES
Q14	8-729-900-89	TRANSISTOR DTC144ES
Q15	8-729-606-33	TRANSISTOR 2SC2603-F
Q16	8-729-100-66	TRANSISTOR 2SC1623
Q17	8-729-100-66	TRANSISTOR 2SC1623
Q18	8-729-883-92	TRANSISTOR 2SC2839-E
Q19	8-729-883-92	TRANSISTOR 2SC2839-E
Q20	8-729-100-76	TRANSISTOR 2SA812-M6
Q21	8-729-100-66	TRANSISTOR 2SC1623
Q201	8-729-178-62	TRANSISTOR 2SC2786-L
Q202	8-729-178-62	TRANSISTOR 2SC2786-L
Q203	8-729-200-66	TRANSISTOR 2SK192A-GR
Q204	8-729-200-66	TRANSISTOR 2SK192A-GR
Q205	8-729-117-54	TRANSISTOR 2SA1175-F
Q206	8-729-218-43	TRANSISTOR 2SK184-GR
Q207	8-729-606-33	TRANSISTOR 2SC2603-F
Q208	8-729-218-43	TRANSISTOR 2SK184-GR
Q209	8-729-178-55	TRANSISTOR 2SC2785-E
Q210	8-729-102-03	TRANSISTOR 2SD1020-F

ELECTRICAL PARTS

Ref.No.	Part No.	Description
Q211	8-729-612-77	TRANSISTOR 2SA1027R
Q212	8-729-178-55	TRANSISTOR 2SC2785-E
Q213	8-729-612-77	TRANSISTOR 2SA1027R
Q214	8-729-612-77	TRANSISTOR 2SA1027R
Q215	8-729-612-77	TRANSISTOR 2SA1027R
Q216	8-729-612-77	TRANSISTOR 2SA1027R
Q217	8-729-178-55	TRANSISTOR 2SC2785-E
Q218	8-729-612-77	TRANSISTOR 2SA1027R
Q219	8-729-102-03	TRANSISTOR 2SD1020-F
Q220	8-729-606-33	TRANSISTOR 2SC2603-F
Q221	8-729-201-83	TRANSISTOR 2SC3112-A
Q301	8-729-271-22	TRANSISTOR 2SC2712-G
R1	1-247-879-00	CARBON 100K 5% 1/6W
R2	1-247-843-00	CARBON 3.3K 5% 1/6W
R3	1-247-831-00	CARBON 1K 5% 1/6W
R4	1-247-879-00	CARBON 100K 5% 1/6W
R5	1-247-799-00	CARBON 47 5% 1/6W
R6	1-247-879-00	CARBON 100K 5% 1/6W
R7	1-247-799-00	CARBON 47 5% 1/6W
R11	1-247-831-00	CARBON 1K 5% 1/6W
R12	1-247-879-00	CARBON 100K 5% 1/6W
R13	1-247-863-00	CARBON 22K 5% 1/6W
R14	1-247-799-00	CARBON 47 5% 1/6W
R15	1-247-879-00	CARBON 100K 5% 1/6W
R21	1-247-807-00	CARBON 100 5% 1/6W
R22	1-247-807-00	CARBON 100 5% 1/6W
R23	1-247-843-00	CARBON 3.3K 5% 1/6W
R24	1-247-804-00	CARBON 75 5% 1/6W
R26	1-247-831-00	CARBON 1K 5% 1/6W
R27	1-247-807-00	CARBON 100 5% 1/6W
R31	1-247-855-00	CARBON 10K 5% 1/6W
R32	1-247-879-00	CARBON 100K 5% 1/6W
R33	1-247-807-00	CARBON 100 5% 1/6W
R34	1-247-837-00	CARBON 1.8K 5% 1/6W
R35	1-247-837-00	CARBON 1.8K 5% 1/6W
R36	1-247-807-00	CARBON 100 5% 1/6W
R37	1-247-807-00	CARBON 100 5% 1/6W
R38	1-247-807-00	CARBON 100 5% 1/6W
R39	1-247-887-00	CARBON 220K 5% 1/6W
R40	1-247-879-00	CARBON 100K 5% 1/6W
R41	1-247-845-00	CARBON 3.9K 5% 1/6W
R42	1-247-807-00	CARBON 100 5% 1/6W
R43	1-247-831-00	CARBON 1K 5% 1/6W
R44	1-247-823-00	CARBON 470 5% 1/6W
R45	1-247-831-00	CARBON 1K 5% 1/6W
R51	1-247-835-00	CARBON 1.5K 5% 1/6W

ELECTRICAL PARTS

Ref.No.	Part No.	Description
R52	1-247-875-00	CARBON 68K 5% 1/6W
R53	1-247-863-00	CARBON 22K 5% 1/6W
R54	1-247-879-00	CARBON 100K 5% 1/6W
R55	1-247-891-00	CARBON 330K 5% 1/6W
R61	1-247-831-00	CARBON 1K 5% 1/6W
R62	1-247-879-00	CARBON 100K 5% 1/6W
R63	1-247-799-00	CARBON 47 5% 1/6W
R64	1-247-843-00	CARBON 3.3K 5% 1/6W
R65	1-247-879-00	CARBON 100K 5% 1/6W
R66	1-247-893-00	CARBON 390K 5% 1/6W
R67	1-247-843-00	CARBON 3.3K 5% 1/6W
R68	1-247-825-00	CARBON 560 5% 1/6W
R69	1-247-831-00	CARBON 1K 5% 1/6W
R71	1-247-855-00	CARBON 10K 5% 1/6W
R72	1-247-891-00	CARBON 330K 5% 1/6W
R73	1-247-807-00	CARBON 100 5% 1/6W
R74	1-247-831-00	CARBON 1K 5% 1/6W
R75	1-247-847-00	CARBON 4.7K 5% 1/6W
R76	1-247-819-00	CARBON 330 5% 1/6W
R81	1-247-807-00	CARBON 100 5% 1/6W
R82	1-247-849-00	CARBON 5.6K 5% 1/6W
R83	1-247-799-00	CARBON 47 5% 1/6W
R84	1-247-791-00	CARBON 22 5% 1/6W
R85	1-247-831-00	CARBON 1K 5% 1/6W
R86	1-247-831-00	CARBON 1K 5% 1/6W
R87	1-247-855-00	CARBON 10K 5% 1/6W
R88	1-247-855-00	CARBON 10K 5% 1/6W
R89	1-247-855-00	CARBON 10K 5% 1/6W
R90	1-247-855-00	CARBON 10K 5% 1/6W
R91	1-247-855-00	CARBON 10K 5% 1/6W
R92	1-247-847-00	CARBON 4.7K 5% 1/6W
R101	1-247-889-00	CARBON 270K 5% 1/6W
R102	1-247-795-00	CARBON 33 5% 1/6W
R103	1-247-819-00	CARBON 330 5% 1/6W
R104	1-247-831-00	CARBON 1K 5% 1/6W
R105	1-247-847-00	CARBON 4.7K 5% 1/6W
R106	1-247-871-00	CARBON 47K 5% 1/6W
R107	1-247-863-00	CARBON 22K 5% 1/6W
R108	1-247-883-00	CARBON 150K 5% 1/6W
R111	1-247-879-00	CARBON 100K 5% 1/6W
R112	1-247-858-00	CARBON 13K 5% 1/6W
R113	1-247-875-00	CARBON 68K 5% 1/6W
R114	1-247-855-00	CARBON 10K 5% 1/6W
R115	1-247-855-00	CARBON 10K 5% 1/6W
R116	1-247-875-00	CARBON 68K 5% 1/6W

ELECTRICAL PARTS

Ref.No.	Part No.	Description
R117	1-247-879-00	CARBON 100K 5% 1/6W
R118	1-247-819-00	CARBON 330 5% 1/6W
R119	1-247-847-00	CARBON 4.7K 5% 1/6W
R121	1-247-893-00	CARBON 390K 5% 1/6W
R122	1-247-838-00	CARBON 2K 5% 1/6W
R123	1-247-831-00	CARBON 1K 5% 1/6W
R124	1-247-831-00	CARBON 1K 5% 1/6W
R125	1-247-889-00	CARBON 270K 5% 1/6W
R126	1-247-835-00	CARBON 1.5K 5% 1/6W
R127	1-247-831-00	CARBON 1K 5% 1/6W
R131	1-247-887-00	CARBON 220K 5% 1/6W
R132	1-247-895-00	CARBON 470K 5% 1/6W
R133	1-247-879-00	CARBON 100K 5% 1/6W
R134	1-247-867-00	CARBON 33K 5% 1/6W
R135	1-247-887-00	CARBON 220K 5% 1/6W
R136	1-247-865-00	CARBON 27K 5% 1/6W
R137	1-247-881-00	CARBON 120K 5% 1/6W
R138	1-247-903-00	CARBON 1M 5% 1/6W
R139	1-247-879-00	CARBON 100K 5% 1/6W
R140	1-247-879-00	CARBON 100K 5% 1/6W
R141	1-247-903-00	CARBON 1M 5% 1/6W
R142	1-247-903-00	CARBON 1M 5% 1/6W
R143	1-247-879-00	CARBON 100K 5% 1/6W
R151	1-247-871-00	CARBON 47K 5% 1/6W
R152	1-247-871-00	CARBON 47K 5% 1/6W
R153	1-247-867-00	CARBON 33K 5% 1/6W
R154	1-247-881-00	CARBON 120K 5% 1/6W
R155	1-247-855-00	CARBON 10K 5% 1/6W
R156	1-247-841-00	CARBON 2.7K 5% 1/6W
R157	1-247-871-00	CARBON 47K 5% 1/6W
R201	1-247-879-00	CARBON 100K 5% 1/6W
R202	1-247-813-00	CARBON 180 5% 1/6W
R203	1-247-879-00	CARBON 100K 5% 1/6W
R204	1-247-799-00	CARBON 47 5% 1/6W
R205	1-247-903-00	CARBON 1M 5% 1/6W
R206	1-247-855-00	CARBON 10K 5% 1/6W
R207	1-247-791-00	CARBON 22 5% 1/6W
R208	1-247-799-00	CARBON 47 5% 1/6W
R211	1-247-843-00	CARBON 3.3K 5% 1/6W
R212	1-247-879-00	CARBON 100K 5% 1/6W
R213	1-247-813-00	CARBON 180 5% 1/6W
R214	1-247-881-00	CARBON 120K 5% 1/6W
R215	1-247-811-00	CARBON 150 5% 1/6W
R216	1-247-855-00	CARBON 10K 5% 1/6W
R217	1-247-791-00	CARBON 22 5% 1/6W
R218	1-247-799-00	CARBON 47 5% 1/6W

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
R219	1-247-863-00	CARBON	22K	5%	1/6W
R221	1-247-787-00	CARBON	15	5%	1/6W
R222	1-247-831-00	CARBON	1K	5%	1/6W
R223	1-247-831-00	CARBON	1K	5%	1/6W
R224	1-247-831-00	CARBON	1K	5%	1/6W
R231	1-247-831-00	CARBON	1K	5%	1/6W
R232	1-247-831-00	CARBON	1K	5%	1/6W
R233	1-247-843-00	CARBON	3.3K	5%	1/6W
R234	1-247-855-00	CARBON	10K	5%	1/6W
R235	1-247-847-00	CARBON	4.7K	5%	1/6W
R236	1-247-831-00	CARBON	1K	5%	1/6W
R237	1-247-879-00	CARBON	100K	5%	1/6W
R238	1-247-879-00	CARBON	100K	5%	1/6W
R241	1-247-855-00	CARBON	10K	5%	1/6W
R242	1-247-839-00	CARBON	2.2K	5%	1/6W
R243	1-247-863-00	CARBON	22K	5%	1/6W
R244	1-247-871-00	CARBON	47K	5%	1/6W
R245	1-247-827-00	CARBON	680	5%	1/6W
R246	1-247-867-00	CARBON	33K	5%	1/6W
R247	1-247-803-00	CARBON	68	5%	1/6W
R248	1-249-001-00	CARBON	1	5%	1/6W
R261	1-247-863-00	CARBON	22K	5%	1/6W
R262	1-247-863-00	CARBON	22K	5%	1/6W
R263	1-247-863-00	CARBON	22K	5%	1/6W
R264	1-247-863-00	CARBON	22K	5%	1/6W
R265	1-247-855-00	CARBON	10K	5%	1/6W
R266	1-247-867-00	CARBON	33K	5%	1/6W
R267	1-247-867-00	CARBON	33K	5%	1/6W
R268	1-247-855-00	CARBON	10K	5%	1/6W
R269	1-247-823-00	CARBON	470	5%	1/6W
R270	1-247-863-00	CARBON	22K	5%	1/6W
R271	1-247-887-00	CARBON	220K	5%	1/6W
R272	1-247-831-00	CARBON	1K	5%	1/6W
R273	1-247-863-00	CARBON	22K	5%	1/6W
R281	1-247-831-00	CARBON	1K	5%	1/6W
R282	1-247-871-00	CARBON	47K	5%	1/6W
R283	1-247-877-00	CARBON	82K	5%	1/6W
R284	1-247-855-00	CARBON	10K	5%	1/6W
R285	1-247-871-00	CARBON	47K	5%	1/6W
R301	1-247-831-00	CARBON	1K	5%	1/6W
R302	1-247-867-00	CARBON	33K	5%	1/6W
R303	1-247-831-00	CARBON	1K	5%	1/6W
R304	1-247-831-00	CARBON	1K	5%	1/6W
R305	1-247-831-00	CARBON	1K	5%	1/6W
R306	1-247-831-00	CARBON	1K	5%	1/6W
R307	1-247-882-00	CARBON	130K	5%	1/6W

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
R308	1-247-903-00	CARBON	1M	5%	1/6W
R309	1-247-831-00	(AIR-8,Canadian,AEP-2)...CARBON	1K	5%	1/6W
R310	1-247-879-00	CARBON	100K	5%	1/6W
R311	1-247-879-00	CARBON	100K	5%	1/6W
R312	1-247-879-00	CARBON	100K	5%	1/6W
R313	1-247-879-00	CARBON	100K	5%	1/6W
R314	1-247-903-00	CARBON	1M	5%	1/6W
R315	1-247-903-00	CARBON	1M	5%	1/6W
R316	1-247-903-00	CARBON	1M	5%	1/6W
R317	1-247-879-00	CARBON	100K	5%	1/6W
R318	1-247-903-00	CARBON	1M	5%	1/6W
R319	1-247-813-00	CARBON	180	5%	1/6W
R320	1-247-831-00	CARBON	1K	5%	1/6W
R321	1-247-799-00	CARBON	47	5%	1/6W
R322	1-247-799-00	CARBON	47	5%	1/6W
R323	1-247-831-00	(AEP-1,E)....CARBON	1K	5%	1/6W
R324	1-247-866-00	CARBON	30K	5%	1/6W
RV121	1-230-538-11	RES, VAR, CARBON (WITH SW)	50K, SQL		
RV241	1-230-537-11	RES, VAR, CARBON (WITH SW)	20K, VOL		
S121	1-230-538-11	RES, VAR, CARBON (WITH SW)	50K, SQL		
S201	1-554-955-11	SWITCH, ROTARY, BAND SELECT			
S202	1-554-957-11	SWITCH, PUSH (1 KEY)			
S301	1-553-349-00	SWITCH, PUSH, 3			
S302	1-553-349-00	SWITCH, PUSH, 2			
S303	1-553-349-00	SWITCH, PUSH, 1			
S304	1-553-349-00	SWITCH, PUSH, ENTER			
S305	1-553-349-00	SWITCH, PUSH, 6			
S306	1-553-349-00	SWITCH, PUSH, 5			
S307	1-553-349-00	SWITCH, PUSH, 4			
S308	1-553-349-00	SWITCH, PUSH, PROGRAM			
S309	1-553-349-00	SWITCH, PUSH, 9			
S310	1-553-349-00	SWITCH, PUSH, 8			
S311	1-553-349-00	SWITCH, PUSH, 7			
S312	1-553-349-00	SWITCH, PUSH, PRIORITY			
S313	1-553-349-00	SWITCH, PUSH, DIRECT			
S314	1-553-349-00	SWITCH, PUSH, EXECUTE			
S315	1-553-349-00	SWITCH, PUSH, 0			
S316	1-553-349-00	SWITCH, PUSH, DELAY			
S317	1-553-349-00	SWITCH, PUSH, MEMORY SCAN S/S			
S318	1-553-349-00	SWITCH, PUSH, SCAN +			
S319	1-553-349-00	SWITCH, PUSH, SCAN -			
S320	1-553-349-00	SWITCH, PUSH, KEY PROTECT			
S321	1-554-977-31	SWITCH, SLIDE, 10kHz/9kHz SELECT			
S322	1-554-956-11	SWITCH, LEAF, LIGHT			
SP	1-503-374-11	SPEAKER			

ELECTRICAL PARTS

Ref.No.	Part No.	Description
T21	1-426-194-11	TRANSFORMER, HIGH-FREQUENCY
T31	1-426-193-11	TRANSFORMER, HIGH-FREQUENCY
T32	1-404-448-00	TRANSFORMER, IF
T33	1-404-568-11	TRANSFORMER, IF
T34	1-404-191-00	TRANSFORMER, IF
T51	1-406-052-00	COIL (OSC)
T61	1-459-557-11	COIL (WITH CORE)
T62	1-404-126-00	IFT (SMALL TYPE)
T81	1-404-191-00	TRANSFORMER, IF
T101	1-404-127-00	IFT (SMALL TYPE)
T281	1-406-112-11	COIL (OSC)
X51	1-567-302-11	VIBRATOR, CRYSTAL, 55.400MHz
X221	1-567-310-11	VIBRATOR, CRYSTAL, 7.2MHz
XF31	1-527-372-00	FILTER, CRYSTAL, 55.845MHz

ACCESSORY & PACKING MATERIAL

No.	Part No.	Description	REMARKS
151	1-504-059-11	MAGNETIC EARPHONE(ME-20H)	
152	3-701-295-00	BAG, POLYETHYLENE (FOR PRINTED MATTER)	
153	3-890-830-00	BAG, POLYETHYLENE (FOR SET)	
154	3-893-708-01	BELT, CARRYING	
155	3-893-736-01	LABEL, STEP, MW CH	
156	3-893-740-01	CASE, ACCESSORY	
157	3-893-745-01	CUSHION (UPPER)	
158	3-893-742-01	(Canadian,AEP-2)...INDIVIDUAL CARTON	
	3-893-743-01	(AEP-1,E).....INDIVIDUAL CARTON	
	3-893-748-01	(AIR-8).....INDIVIDUAL CARTON	
159	*3-893-744-01	CUSHION (LOWER)	
160	3-990-002-12	(Canadian,AEP,E)...MANUAL, INSTRUCTION	
	3-990-002-21	(AIR-8)....MANUAL, INSTRUCTION	
	3-990-002-41	(AEP).....MANUAL, INSTRUCTION	

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AIR-7/8

AIR-7/8

SONY[®] SERVICE MANUAL

SUPPLEMENT-2

File this supplement with the Service Manual.

Subject: PC BOARD CHANGE
(Except Canadian Model)

MELF components used as resistors, capacitors, and diode have been changed to chip components on the production.

Because of this, pc board have been changed.

US Model

AIR-8

Canadian Model

AEP Model

UK Model

E Model

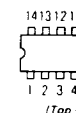
AIR-7

1. S

CX075



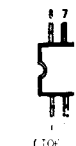
CX796



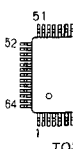
LA414



LA50C
μPC31



μPD7


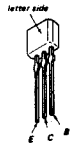

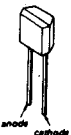
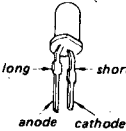
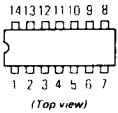

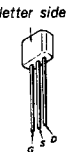
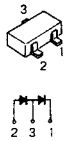
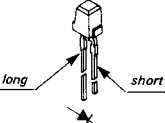
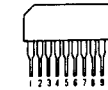

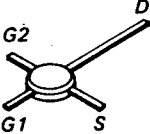

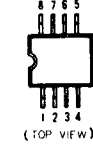

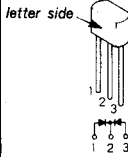
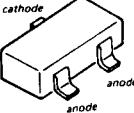
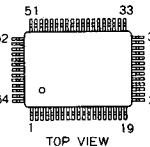

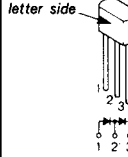
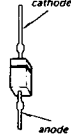
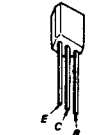

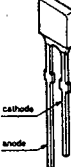


DTC1.
2SA11
2SC21
2SC61



1703
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1. SEMICONDUCTOR LEAD LAYOUTS

CX075B 	2SA1175 2SC2785 2SC2786 2SC2786-L 2SD1020-F 	2SK192A 	SVC201SP-BG 	SLP281C-50 
CX7961A-1 	2SA812 2SC1623 	2SK439-D 	1SS123 	TLR209 
LA4145 	2SC3112 	3SK114-Y 	1SS279 	
LA5003M μPC393G2 	2SK152-2 	MC921 	1S2837 	
μPD7503G-136 	2SK184-GR 	MC931 	1T32-4 1T33-09 	
DTC144ES 2SA1048-GR 2SC2839 2SC634SP 		RD20ES-B2 1SS119 1SS198 	SLP178B 	

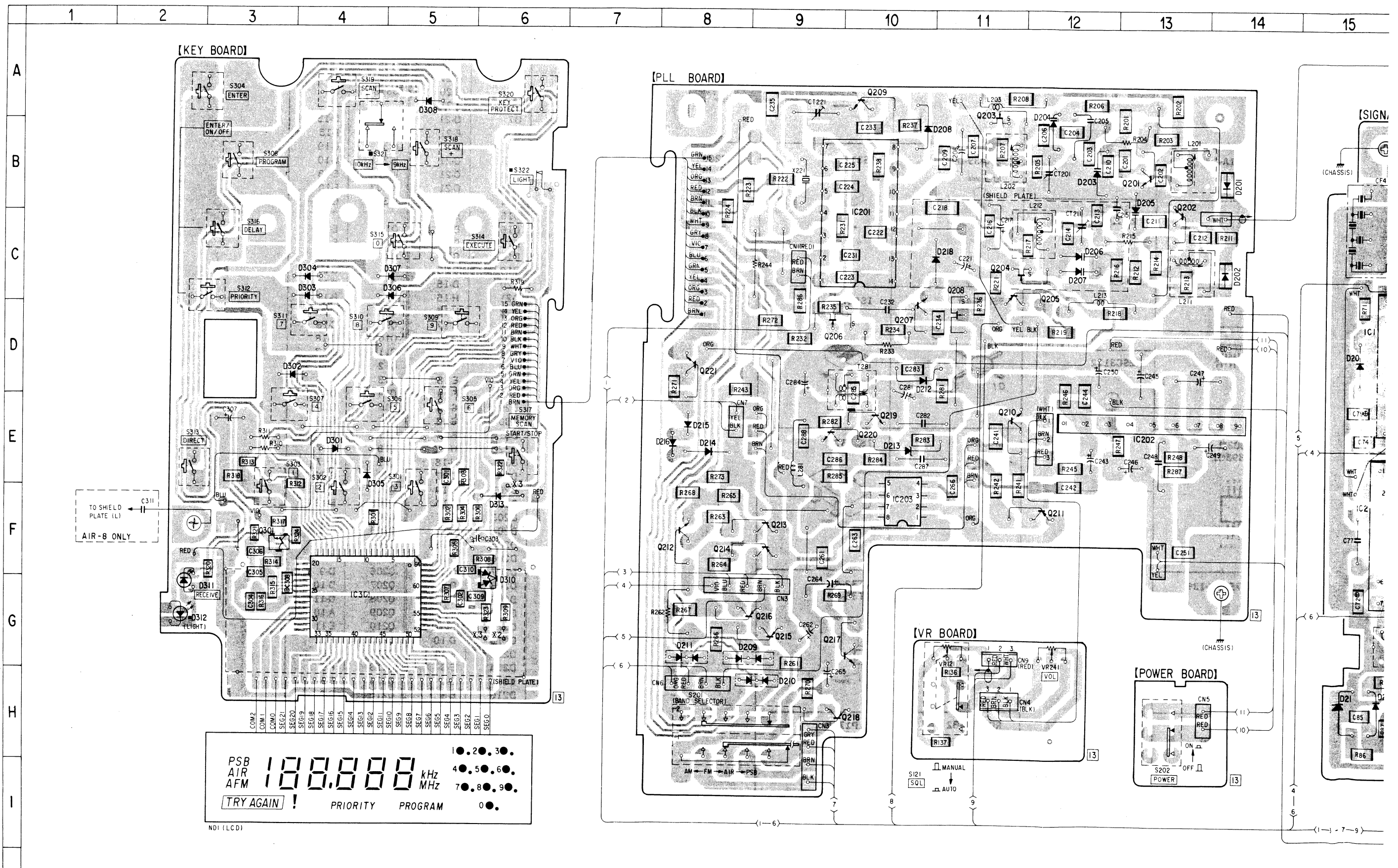
•Semiconducfor Location

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D3	G-21	D311	G-2
D4	G-21	D312	G-2
D5	G-20	D313	F-6
D6	E-21		
D7	D-21	IC1	D-15
D8	E-21	IC2	F-15
D9	D-20	IC3	G-19
D11	C-21	IC201	B-10
D12	C-21	IC202	E-13
D13	C-21	IC203	F-10
D14	D-19	IC301	G-4
D15	D-19		
D16	D-18	Q1	E-21
D17	D-18	Q2	E-20
D18	C-16	Q3	C-19
D19	C-16	Q5	B-21
D20	D-15	Q6	C-19
D21	H-15	Q7	B-19
D22	H-15	Q8	B-17
D23	H-17	Q9	C-18
D24	G-17	Q10	D-18
D25	E-17	Q11	D-17
D26	E-20	Q12	E-17
D27	E-18	Q13	F-16
D28	F-19	Q14	D-17
D29	G-18	Q15	E-17
D30	G-18	Q16	E-19
D31	F-18	Q17	E-18
D32	H-18	Q18	F-17
D33	H-18	Q19	F-17
D39	D-17	Q20	G-20
D201	B-14	Q21	H-18
D202	C-14	Q201	B-13
D203	B-12	Q202	C-13
D204	B-12	Q203	A-11
D205	B-13	Q204	C-11
D206	C-12	Q205	C-12
D207	C-12	Q206	D-9
D208	B-10	Q207	D-10
D209	G-9	Q208	D-11
D210	H-9	Q209	A-10
D211	G-8	Q210	E-11
D212	D-10	Q211	F-12
D213	E-10	Q212	F-8
D214	E-8	Q213	F-9
D215	E-8	Q214	F-9
D216	E-8	Q215	G-9
D217	B-23	Q216	G-9
D218	C-11	Q217	G-10
D301	E-4	Q218	H-9
D302	D-3	Q219	E-10
D303	C-4	Q220	E-10
D304	C-4	Q221	D-8
D305	E-4	Q301	F-3
D306	C-5		
D307	C-5		

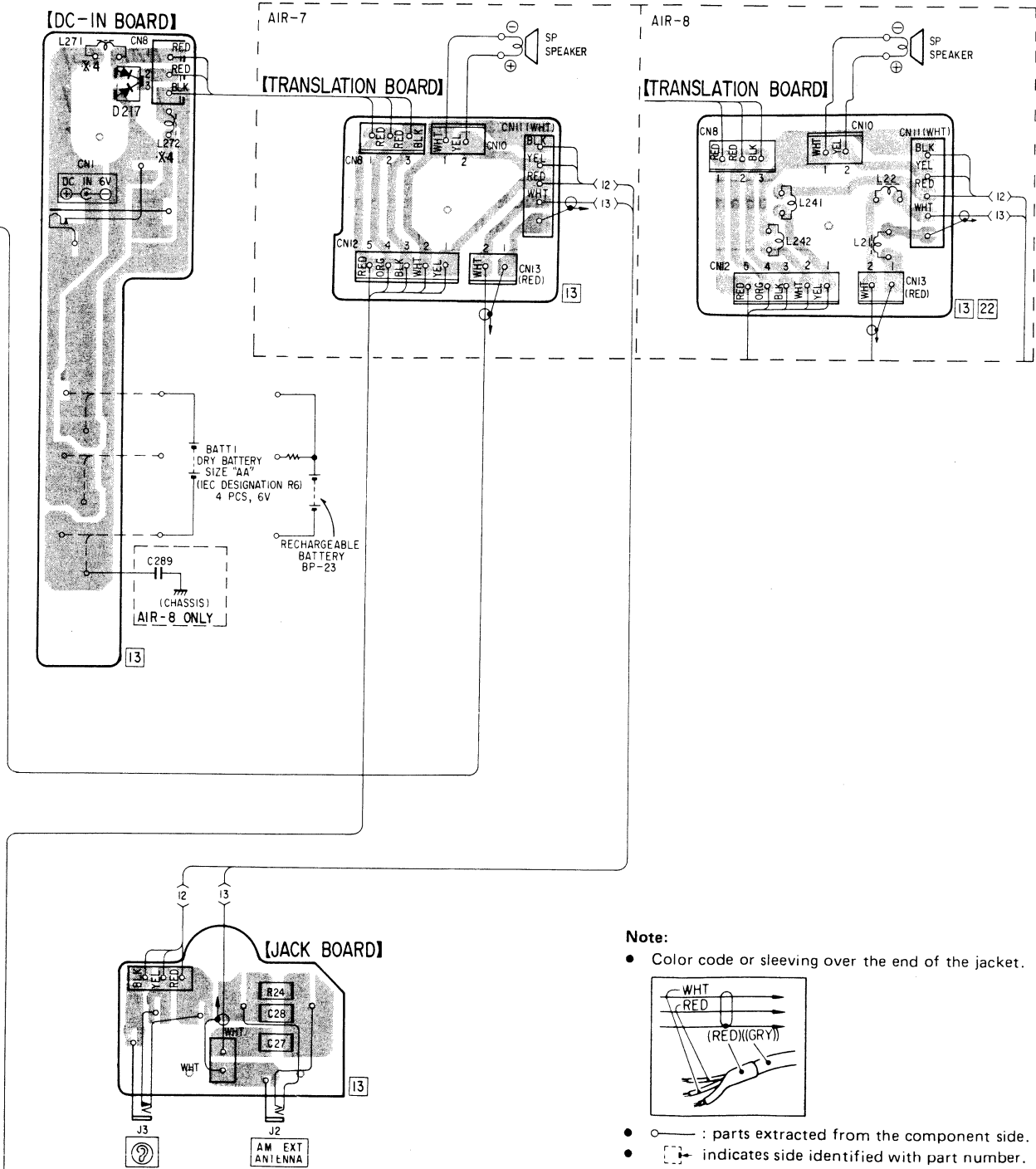
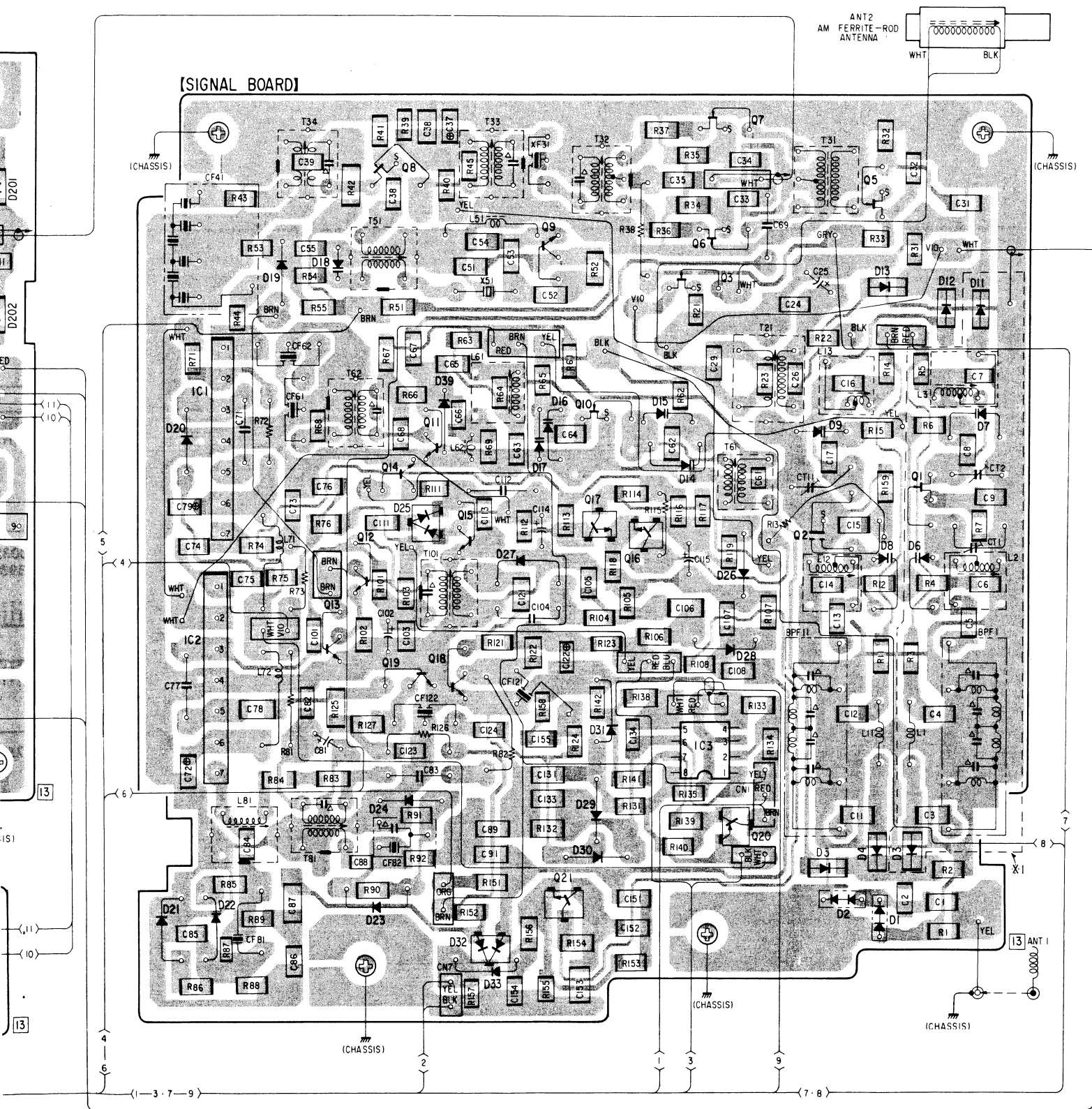
Supl

2. PRINTED WIRING BOARDS

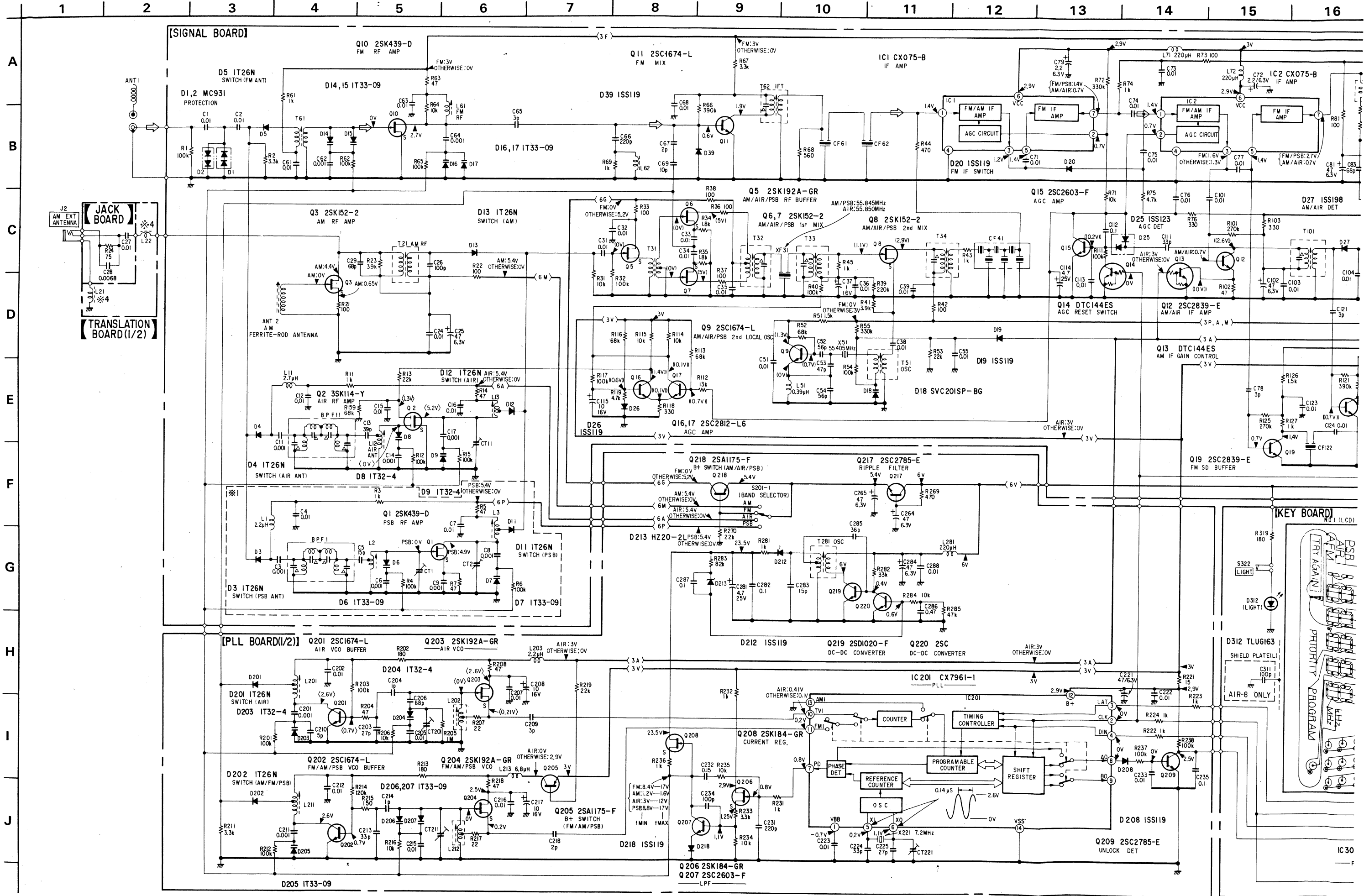
- Refer to page 3 for semiconductor lead layouts.
- Refer to page 4 for semiconductor location.

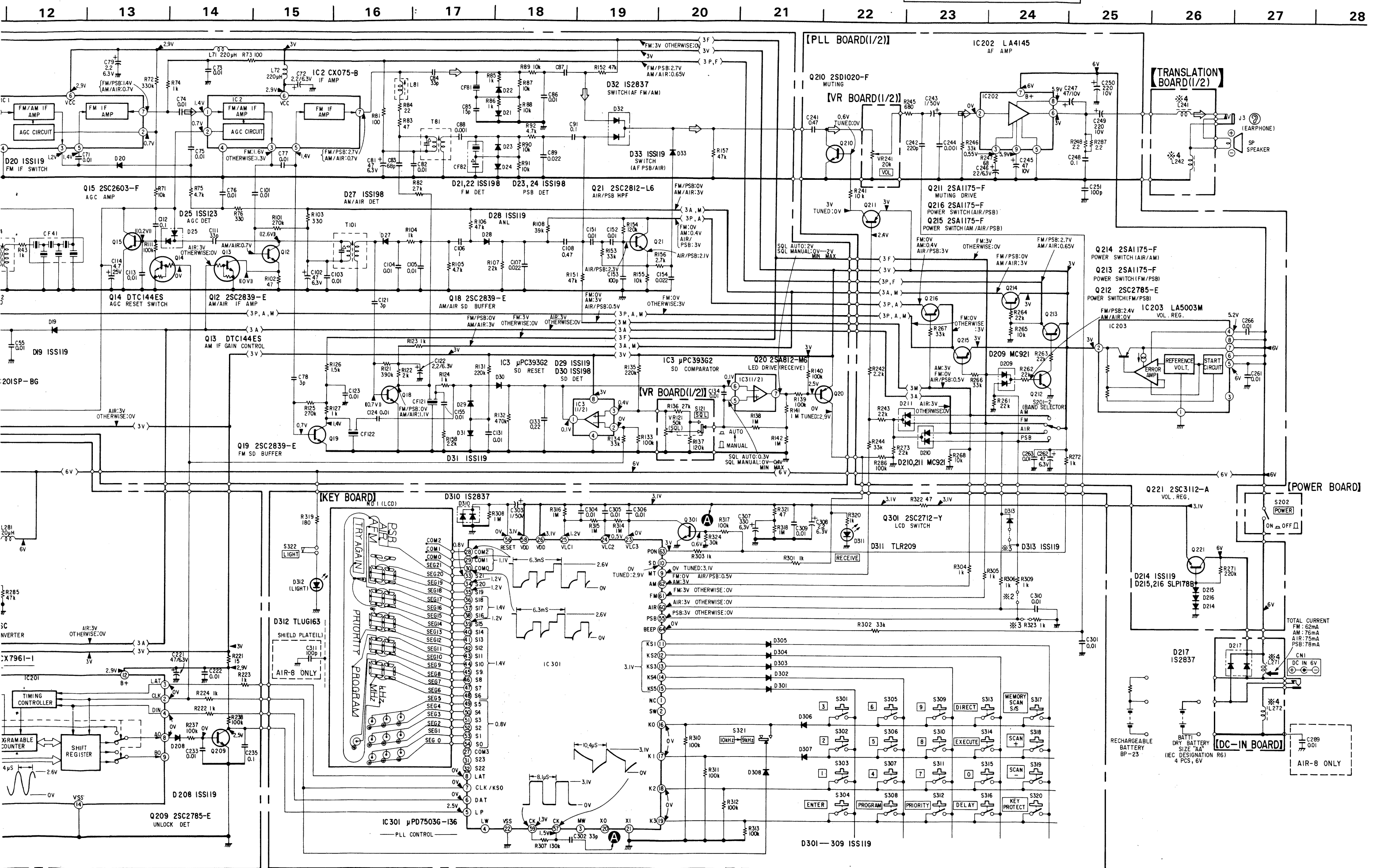


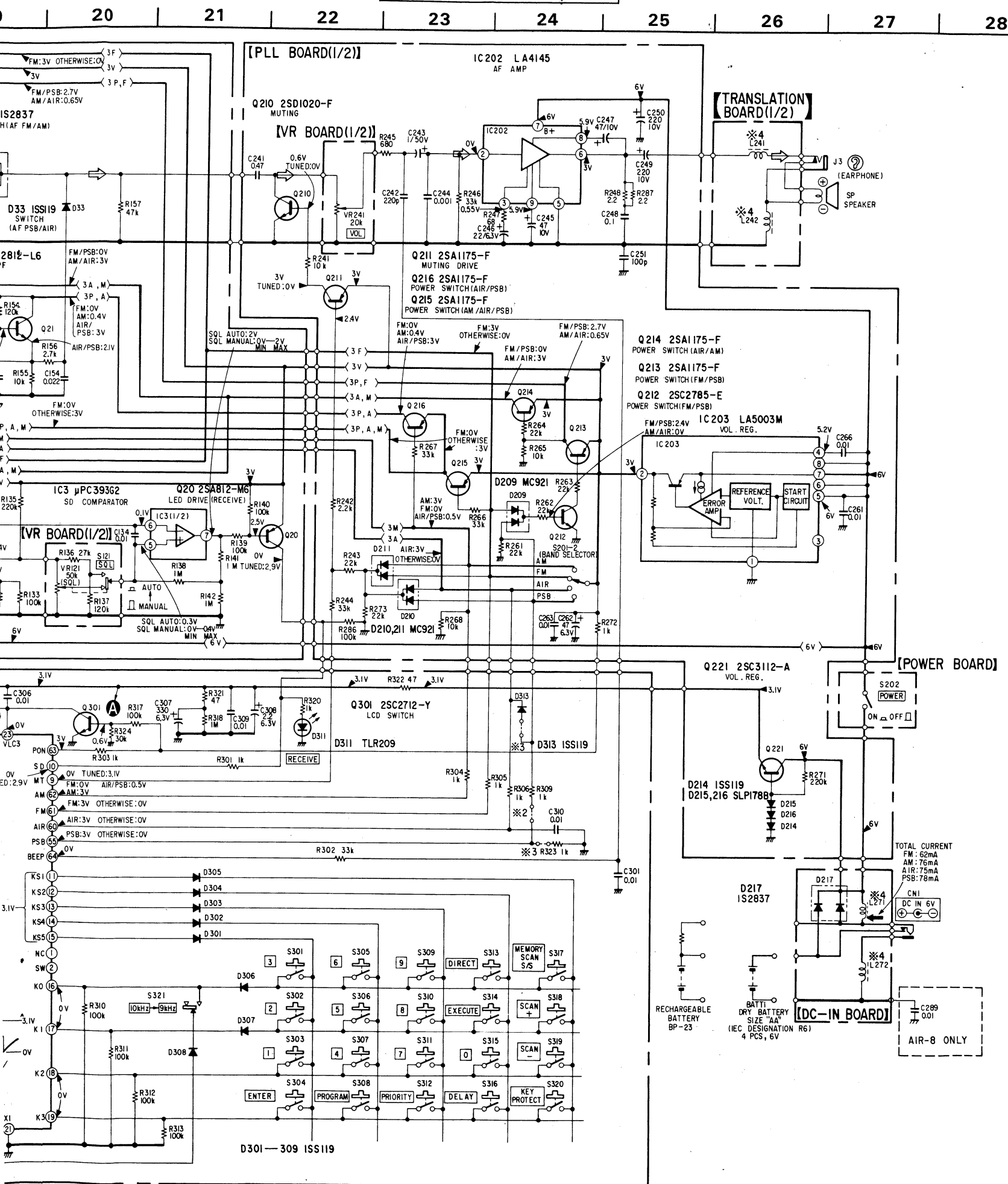
14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
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3. SCHEMATIC DIAGRAM







Note:

- All capacitors are in μF unless otherwise noted. pF : μF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $\frac{1}{4}\text{W}$ or less unless otherwise specified.
- \triangle : internal component.
- \square : B+ Line
- Total current is measured at detuned mode with VOL knob turned to the counterclockwise (MIN).
- Power voltage is dc 6V and fed with regulated dc power supply from external power voltage jack.
- Voltage and waveforms are dc with respect to ground under no-signal (detuned) conditions. Measured at FM 76,000MHz on LCD. no mark: FM
- () : AM/AIR/PSB
- () : AM/AIR
- < > : AIR
- Voltages are taken with a VOM (50 k Ω /V). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with an oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Signal path.
- \Rightarrow : FM

• Switch

Ref. No.	Switch	Position
S121	SQL	MANUAL
S201	BAND SELECTOR	FM
S202	POWER	OFF
S301	3	OFF
S302	2	OFF
S303	1	OFF
S304	ENTER	OFF
S305	6	OFF
S306	5	OFF
S307	4	OFF
S308	PROGRAM	OFF
S309	9	OFF
S310	8	OFF
S311	7	OFF
S312	PRIORITY	OFF
S313	DIRECT	OFF
S314	EXECUTE	OFF
S315	0	OFF
S316	DELAY	OFF
S317	MEMORY SCAN S/S	STOP
S318	SCAN+	OFF
S319	SCAN-	OFF
S320	KEY PROTECT	OFF
S321	10kHz/9kHz SELECT	10kHz
S322	LIGHT	OFF

NOTE:

Parts marked * 1 to 4 differ from each model.

	AIR-7		AIR-8
	AEP-1, E model	AEP-2, UK model	
* 1 (PSB RF CIRCUIT)	mounted on PC board, but not used	used	
* 2 (R309)	mounted on PC board, but not used	used	
* 3 (R323, D313)	used	mounted on PC board, but not used	
* 4 (L21, 22, 241, 242, 271, 272)	shorted		mounted

4. ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are two or more same circuits in a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:

MF: μ F, PF: μ F.

RESISTORS

- All resistors are in ohms.
- F: nonflammable

COILS

- MMH: mH, UH: μ H

SEMICONDUCTORS

In each case, U: μ , for example:
UA....: μ A...., UPA....: μ PA....,
UPC....: μ PC, UPD....: μ PD....

Ref.No	Part No.	Description
901	*1-508-995-00	PIN, CONNECTOR
902	*1-560-456-00	PIN, CONNECTOR 2P
903	*1-560-466-00	PIN, CONNECTOR 3P
905	*1-560-468-00	PIN, CONNECTOR 5P
906	*1-613-291-11	PC BOARD, DC-IN
907	*1-613-292-11	PC BOARD, JACK
908	1-613-293-11	(AIR-7)....PC BOARD, TRANSLATION
908	1-613-293-21	(AIR-8)....PC BOARD, TRANSLATION
910	*1-613-296-11	PC BOARD, KEY
911	*1-613-297-11	PC BOARD, VR
912	1-562-261-21	CONNECTOR, COAXIAL (BNC)
913	A-3660-519-A	MOUNTED PCB, SIGNAL
914	A-3661-009-A	MOUNTED PCB, PLL
ANT1	1-501-322-11	ANTENNA
ANT2	1-402-120-12	ANTENNA, FERRITE-ROD (LW/MW/SW)
BPF1	1-235-401-11	FILTER, BAND PASS
BPF11	1-235-402-11	FILTER, BAND PASS

CAPACITOR					
C1	1-163-021-00	CERAMIC CHIP	0.01MF	10%	50V
C2	1-163-021-00	CERAMIC CHIP	0.01MF	10%	50V
C3	1-163-141-00	CERAMIC CHIP	0.001MF	10%	50V
C4	1-163-021-00	CERAMIC CHIP	0.01MF	10%	50V
C5	1-163-097-00	CERAMIC CHIP	15PF	5%	50V
C6	1-163-141-00	CERAMIC CHIP	0.001MF	10%	50V
C7	1-163-021-00	CERAMIC CHIP	0.01MF	10%	50V
C8	1-163-141-00	CERAMIC CHIP	0.001MF	10%	50V
C9	1-163-141-00	CERAMIC CHIP	0.001MF	10%	50V
C11	1-163-141-00	CERAMIC CHIP	0.001MF	10%	50V
C12	1-163-021-00	CERAMIC CHIP	0.01MF	10%	50V
C13	1-163-107-00	CERAMIC CHIP	39PF	5%	50V
C14	1-163-141-00	CERAMIC CHIP	0.001MF	10%	50V
C15	1-163-021-00	CERAMIC CHIP	0.01MF	10%	50V
C16	1-163-021-00	CERAMIC CHIP	0.01MF	10%	50V
C17	1-163-141-00	CERAMIC CHIP	0.001MF	10%	50V
C24	1-163-021-00	CERAMIC CHIP	0.01MF	10%	50V
C25	1-126-154-11	ELECT	47MF	20%	6.3V
C26	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C27	1-163-021-00	CERAMIC CHIP	0.01MF	10%	50V
C28	1-163-019-00	CERAMIC CHIP	0.0068MF	10%	50V
C29	1-163-113-00	CERAMIC CHIP	68PF	5%	50V
C31	1-163-021-00	CERAMIC CHIP	0.01MF	10%	50V
C32	1-163-021-00	CERAMIC CHIP	0.01MF	10%	50V
C33	1-163-021-00	CERAMIC CHIP	0.01MF	10%	50V
C34	1-163-021-00	CERAMIC CHIP	0.01MF	10%	50V
C35	1-163-021-00	CERAMIC CHIP	0.01MF	10%	50V
C36	1-163-021-00	CERAMIC CHIP	0.01MF	10%	50V
C37	1-135-091-00	TANTAL CHIP	1MF	20%	16V
C38	1-163-021-00	CERAMIC CHIP	0.01MF	10%	50V
C39	1-163-021-00	CERAMIC CHIP	0.01MF	10%	50V
C51	1-163-021-00	CERAMIC CHIP	0.01MF	10%	50V

Ref.No	Part No.	Description
C52	1-163-111-00	CERAMIC CHIP
C53	1-163-109-00	CERAMIC CHIP
C54	1-163-111-00	CERAMIC CHIP
C55	1-163-021-00	CERAMIC CHIP
C61	1-163-021-00	CERAMIC CHIP
C62	1-163-141-00	CERAMIC CHIP
C63	1-163-021-00	CERAMIC CHIP
C64	1-163-141-00	CERAMIC CHIP
C65	1-163-086-00	CERAMIC CHIP
C66	1-163-125-00	CERAMIC CHIP
C67	1-163-085-00	CERAMIC CHIP
C68	1-163-021-00	CERAMIC CHIP
C69	1-162-199-31	CERAMIC
C71	1-161-379-00	CERAMIC
C72	1-135-099-00	TANTAL CHIP
C73	1-163-021-00	CERAMIC CHIP
C74	1-163-021-00	CERAMIC CHIP
C75	1-163-021-00	CERAMIC CHIP
C76	1-163-021-00	CERAMIC CHIP
C77	1-161-379-00	CERAMIC
C78	1-163-086-00	CERAMIC CHIP
C79	1-135-099-00	TANTAL CHIP
C81	1-126-154-11	ELECT
C82	1-163-021-00	CERAMIC CHIP
C83	1-162-219-31	CERAMIC
C84	1-163-105-00	CERAMIC CHIP
C85	1-163-097-00	CERAMIC CHIP
C86	1-163-021-00	CERAMIC CHIP
C87	1-162-638-11	CERAMIC CHIP
C88	1-163-141-00	CERAMIC CHIP
C89	1-163-037-11	CERAMIC CHIP
C91	1-164-004-11	CERAMIC CHIP
C101	1-163-021-00	CERAMIC CHIP
C102	1-126-154-11	ELECT
C103	1-163-021-00	CERAMIC CHIP
C104	1-161-379-00	CERAMIC
C105	1-163-021-00	CERAMIC CHIP
C106	1-162-638-11	CERAMIC CHIP
C107	1-163-037-11	CERAMIC CHIP
C108	1-162-637-11	CERAMIC CHIP
C111	1-163-105-00	CERAMIC CHIP
C112	1-136-165-00	FILM
C113	1-163-021-00	CERAMIC CHIP
C114	1-126-094-11	ELECT
C115	1-126-157-11	ELECT
C121	1-163-086-00	CERAMIC CHIP
C122	1-135-099-00	TANTAL CHIP
C123	1-163-021-00	CERAMIC CHIP
C124	1-163-021-00	CERAMIC CHIP
C131	1-163-021-00	CERAMIC CHIP
C133	1-162-993-11	CERAMIC CHIP
C134	1-163-021-00	CERAMIC CHIP

Ref.No	Part No.	Description
C151	1-163-021-00	CERAMIC CHIP
C152	1-163-021-00	CERAMIC CHIP
C153	1-163-181-00	CERAMIC CHIP
C154	1-163-037-11	CERAMIC CHIP
C155	1-163-021-00	CERAMIC CHIP
C201	1-163-141-00	CERAMIC CHIP
C202	1-163-021-00	CERAMIC CHIP
C203	1-163-103-00	CERAMIC CHIP
C204	1-163-083-00	CERAMIC CHIP
C205	1-161-051-00	CERAMIC
C206	1-163-113-00	CERAMIC CHIP
C207	1-163-021-00	CERAMIC CHIP
C208	1-126-157-11	ELECT
C209	1-163-086-00	CERAMIC CHIP
C210	1-163-088-00	CERAMIC CHIP
C211	1-163-141-00	CERAMIC CHIP
C212	1-163-021-00	CERAMIC CHIP
C213	1-163-105-00	CERAMIC CHIP
C214	1-163-083-00	CERAMIC CHIP
C215	1-161-051-00	CERAMIC
C216	1-163-021-00	CERAMIC CHIP
C217	1-126-157-11	ELECT
C218	1-163-149-00	CERAMIC CHIP
C221	1-126-154-11	ELECT
C222	1-163-021-00	CERAMIC CHIP
C223	1-163-021-00	CERAMIC CHIP
C224	1-163-105-00	CERAMIC CHIP
C225	1-163-103-00	CERAMIC CHIP
C231	1-163-125-00	CERAMIC CHIP
C232	1-136-167-00	FILM
C233	1-163-021-00	CERAMIC CHIP
C234	1-163-117-00	CERAMIC CHIP
C235	1-164-004-11	CERAMIC CHIP
C241	1-162-637-11	CERAMIC CHIP
C242	1-163-125-00	CERAMIC CHIP
C243	1-123-611-00	ELECT
C244	1-163-141-00	CERAMIC CHIP
C245	1-124-589-11	ELECT
C246	1-124-638-11	ELECT
C247	1-124-589-11	ELECT
C248	1-136-165-00	FILM
C249	1-126-176-11	ELECT
C250	1-126-176-11	ELECT
C251	1-163-117-00	CERAMIC CHIP
C261	1-163-021-00	CERAMIC CHIP
C262	1-126-154-11	ELECT
C263	1-163-021-00	CERAMIC CHIP
C264	1-126-154-11	ELECT
C265	1-126-154-11	ELECT
C266	1-163-021-00	CERAMIC CHIP
C281	1-126-094-11	ELECT
C282	1-136-165-00	FILM
C283	1-163-097-00	CERAMIC CHIP
C284	1-126-154-11	ELECT
C285	1-163-106-00	CERAMIC CHIP
C286	1-162-637-11	CERAMIC CHIP
C287	1-136-165-00	FILM
C288	1-163-021-00	CERAMIC CHIP
C289	1-161-051-00 (AIR-8)....	CERAMIC
C301	1-163-021-00	CERAMIC CHIP
C302	1-163-105-00	CERAMIC CHIP
C303	1-123-611-00	ELECT
C304	1-163-021-00	CERAMIC CHIP
C305	1-163-021-00	CERAMIC CHIP
C306	1-163-021-00	CERAMIC CHIP
C307	1-124-141-00	ELECT
C308	1-135-099-00	TANTAL CHIP
C309	1-163-021-00	CERAMIC CHIP

Ref.No	Part No.	Description
C310	1-163-021-00	CERAMIC CHIP
C311	1-102-973-00	(AIR-8)....CERAMIC
CF41	1-527-392-00	FILTER, CERAMIC
CF61	1-567-389-11	FILTER, CERAMIC
CF62	1-567-389-11	FILTER, CERAMIC
CF81	1-567-050-00	FILTER, CERAMIC
CF82	1-567-308-11	FILTER, CERAMIC
CF121	1-527-982-00	FILTER, CERAMIC
CF122	1-567-415-11	FILTER, CERAMIC
CN1	1-507-954-11	JACK, EXTERNAL POWER (DC IN 6V)
CT1	1-141-298-11	CAP, TRIMMER
CT2	1-141-298-11	CAP, TRIMMER
CT11	1-141-299-11	CAP, TRIMMER
CT201	1-141-298-11	CAP, TRIMMER
CT211	1-141-299-11	CAP, TRIMMER
CT221	1-141-227-00	CAP, CERAMIC TRIMMER
D1	8-719-000-12	DIODE MC931
D2	8-719-000-12	DIODE MC931
D3	8-719-123-79	DIODE 1SS279
D4	8-719-123-79	DIODE 1SS279
D5	8-719-123-79	DIODE 1SS279
D6	8-713-309-00	DIODE 1T33-09
D7	8-713-309-00	DIODE 1T33-09
D8	8-713-240-00	DIODE 1T32-4
D9	8-713-240-00	DIODE 1T32-4
D11	8-719-123-79	DIODE 1SS279
D12	8-719-123-79	DIODE 1SS279
D13	8-719-123-79	DIODE 1SS279
D14	8-713-309-00	DIODE 1T33-09
D15	8-713-309-00	DIODE 1T33-09
D16	8-713-309-00	DIODE 1T33-09
D17	8-713-309-00	DIODE 1T33-09
D18	8-719-912-03	DIODE SVC201SP-BG
D19	8-719-911-19	DIODE 1SS119
D20	8-719-911-19	DIODE 1SS119
D21	8-719-918-88	DIODE 1SS198
D22	8-719-918-88	DIODE 1SS198
D23	8-719-918-88	DIODE 1SS198
D24	8-719-918-88	DIODE 1SS198
D25	8-719-101-23	DIODE 1SS123
D26	8-719-911-19	DIODE 1SS119
D27	8-719-918-88	DIODE 1SS198
D28	8-719-911-19	DIODE 1SS119
D29	8-719-911-19	DIODE 1SS119
D30	8-719-918-88	DIODE 1SS198
D31	8-719-911-19	DIODE 1SS119
D32	8-719-100-05	DIODE 1S2837
D33	8-719-911-19	DIODE 1SS119
D39	8-719-911-19	DIODE 1SS119
D201	8-719-123-79	DIODE 1SS279
D202	8-719-123-79	DIODE 1SS279
D203	8-713-240-00	DIODE 1T32-4
D204	8-713-240-00	DIODE 1T32-4
D205	8-713-309-00	DIODE 1T33-09
D206	8-713-309-00	DIODE 1T33-09
D207	8-713-309-00	DIODE 1T33-09
D208	8-719-911-19	DIODE 1SS119
D209	8-719-000-06	DIODE MC921
D210	8-719-000-06	DIODE MC921
D211	8-719-000-06	DIODE MC921
D212	8-719-911-19	DIODE 1SS119
D213	8-719-110-53	DIODE RD20ES-B2
D214	8-719-911-19	DIODE 1SS119
D215	8-719-912-43	DIODE SLP178B

Ref.No	Part No.	Description
C310	1-163-021-00	CERAMIC CHIP 0.01MF 10% 50V
C311	1-102-973-00	(AIR-8)... CERAMIC 100PF 5% 50V
CF41	1-527-392-00	FILTER, CERAMIC
CF61	1-567-389-11	FILTER, CERAMIC
CF62	1-567-389-11	FILTER, CERAMIC
CF81	1-567-050-00	FILTER, CERAMIC
CF82	1-567-308-11	FILTER, CERAMIC
CF121	1-527-982-00	FILTER, CERAMIC
CF122	1-567-415-11	FILTER, CERAMIC
CN1	1-507-954-11	JACK, EXTERNAL POWER (DC IN 6V)
CT1	1-141-298-11	CAP, TRIMMER
CT2	1-141-298-11	CAP, TRIMMER
CT11	1-141-299-11	CAP, TRIMMER
CT201	1-141-298-11	CAP, TRIMMER
CT211	1-141-299-11	CAP, TRIMMER
CT221	1-141-227-00	CAP, CERAMIC TRIMMER
D1	8-719-000-12	DIODE MC931
D2	8-719-000-12	DIODE MC931
D3	8-719-123-79	DIODE 1SS279
D4	8-719-123-79	DIODE 1SS279
D5	8-719-123-79	DIODE 1SS279
D6	8-713-309-00	DIODE 1T33-09
D7	8-713-309-00	DIODE 1T33-09
D8	8-713-240-00	DIODE 1T32-4
D9	8-713-240-00	DIODE 1T32-4
D11	8-719-123-79	DIODE 1SS279
D12	8-719-123-79	DIODE 1SS279
D13	8-719-123-79	DIODE 1SS279
D14	8-713-309-00	DIODE 1T33-09
D15	8-713-309-00	DIODE 1T33-09
D16	8-713-309-00	DIODE 1T33-09
D17	8-713-309-00	DIODE 1T33-09
D18	8-719-912-03	DIODE SVC201SP-BG
D19	8-719-911-19	DIODE 1SS119
D20	8-719-911-19	DIODE 1SS119
D21	8-719-918-88	DIODE 1SS198
D22	8-719-918-88	DIODE 1SS198
D23	8-719-918-88	DIODE 1SS198
D24	8-719-918-88	DIODE 1SS198
D25	8-719-101-23	DIODE 1SS123
D26	8-719-911-19	DIODE 1SS119
D27	8-719-918-88	DIODE 1SS198
D28	8-719-911-19	DIODE 1SS119
D29	8-719-911-19	DIODE 1SS119
D30	8-719-918-88	DIODE 1SS198
D31	8-719-911-19	DIODE 1SS119
D32	8-719-100-05	DIODE 1S2837
D33	8-719-911-19	DIODE 1SS119
D39	8-719-911-19	DIODE 1SS119
D201	8-719-123-79	DIODE 1SS279
D202	8-719-123-79	DIODE 1SS279
D203	8-713-240-00	DIODE 1T32-4
D204	8-713-240-00	DIODE 1T32-4
D205	8-713-309-00	DIODE 1T33-09
D206	8-713-309-00	DIODE 1T33-09
D207	8-713-309-00	DIODE 1T33-09
D208	8-719-911-19	DIODE 1SS119
D209	8-719-000-06	DIODE MC921
D210	8-719-000-06	DIODE MC921
D211	8-719-000-06	DIODE MC921
D212	8-719-911-19	DIODE 1SS119
D213	8-719-110-53	DIODE RD20ES-B2
D214	8-719-911-19	DIODE 1SS119
D215	8-719-912-43	DIODE SLP178B

Ref.No	Part No.	Description
D216	8-719-912-43	DIODE SLP178B
D217	8-719-100-05	DIODE 1S2837
D218	8-719-911-19	DIODE 1SS119
D301	8-719-911-19	DIODE 1SS119
D302	8-719-911-19	DIODE 1SS119
D303	8-719-911-19	DIODE 1SS119
D304	8-719-911-19	DIODE 1SS119
D305	8-719-911-19	DIODE 1SS119
D306	8-719-911-19	DIODE 1SS119
D307	8-719-911-19	DIODE 1SS119
D308	8-719-911-19	DIODE 1SS119
D310	8-719-100-05	DIODE 1S2837
D311	8-719-800-67	DIODE TLR209
D312	8-719-920-05	DIODE SLP281C-50
D313	8-719-911-19	DIODE 1SS119
IC1	8-759-600-75	IC CX075B
IC2	8-759-600-75	IC CX075B
IC3	8-759-100-93	IC UPC393G2
IC201	8-757-961-11	IC CX7961A-1
IC202	8-759-801-65	IC LA4145
IC203	8-759-801-15	IC LA5003M
IC301	8-759-102-04	IC UPD7503G-136
J2	1-507-917-00	JACK, STEREO (AM EXT ANTENNA)
J3	1-507-921-00	JACK (EARPHONE)
L1	1-410-320-11	INDUCTOR 2.2UH
L2	1-459-551-11	COIL (WITH CORE)
L3	1-459-556-11	COIL (WITH CORE)
L11	1-410-502-11	INDUCTOR 2.7UH
L12	1-459-558-11	COIL (WITH CORE)
L13	1-459-559-11	COIL (WITH CORE)
L21	1-407-882-00	(AIR-8)... COIL
L22	1-407-882-00	(AIR-8)... COIL
L51	1-408-903-11	INDUCTOR 0.39UH
L61	1-459-555-11	COIL (WITH CORE)
L62	1-407-882-00	COIL
L71	1-408-579-31	INDUCTOR 220UH
L72	1-408-579-31	INDUCTOR 220UH
L81	1-404-567-11	TRANSFORMER, IF
L201	1-459-553-11	COIL (WITH CORE)
L202	1-459-552-11	COIL (WITH CORE)
L203	1-408-555-00	INDUCTOR 2.2UH
L211	1-459-554-11	COIL (WITH CORE)
L212	1-459-550-11	COIL
L213	1-408-561-11	INDUCTOR 6.8UH
L241	1-407-882-00	(AIR-8)... COIL
L242	1-407-882-00	(AIR-8)... COIL
L271	1-407-882-00	(AIR-8)... COIL
L272	1-407-882-00	(AIR-8)... COIL
L281	1-408-579-31	INDUCTOR 220UH
ND1	1-806-918-11	DISPLAY PANEL, LIQUID CRYSTAL
Q1	8-729-301-27	TRANSISTOR 2SK439-D
Q2	8-729-203-19	TRANSISTOR 3SK114-Y
Q3	8-769-162-00	TRANSISTOR 2SK152-2
Q5	8-729-200-66	TRANSISTOR 2SK192A
Q6	8-769-162-00	TRANSISTOR 2SK152-2
Q7	8-769-162-00	TRANSISTOR 2SK152-2
Q8	8-769-162-00	TRANSISTOR 2SK152-2
Q9	8-729-178-62	TRANSISTOR 2SC2786-L
Q10	8-729-301-27	TRANSISTOR 2SK439-D
Q11	8-729-178-62	TRANSISTOR 2SC2786-L
Q12	8-729-883-92	TRANSISTOR 2SC2839
Q13	8-729-900-89	TRANSISTOR DTC144ES
Q14	8-729-900-89	TRANSISTOR DTC144ES
Q15	8-729-178-54	TRANSISTOR 2SC2785

Ref.No	Part No.	Description
Q16	8-729-100-66	TRANSISTOR 2SC1623
Q17	8-729-100-66	TRANSISTOR 2SC1623
Q18	8-729-883-92	TRANSISTOR 2SC2839
Q19	8-729-883-92	TRANSISTOR 2SC2839
Q20	8-729-100-76	TRANSISTOR 2SA812
Q21	8-729-100-66	TRANSISTOR 2SC1623
Q201	8-729-178-61	TRANSISTOR 2SC2786
Q202	8-729-178-62	TRANSISTOR 2SC2786-L
Q203	8-729-200-66	TRANSISTOR 2SK192A
Q204	8-729-200-66	TRANSISTOR 2SK192A
Q205	8-729-204-83	TRANSISTOR 2SA1048-GR
Q206	8-729-218-43	TRANSISTOR 2SK184-GR
Q207	8-729-178-54	TRANSISTOR 2SC2785
Q208	8-729-218-43	TRANSISTOR 2SK184-GR
Q209	8-729-600-27	TRANSISTOR 2SC634SP
Q210	8-729-102-04	TRANSISTOR 2SD1020-F
Q211	8-729-117-54	TRANSISTOR 2SA1175
Q212	8-729-600-27	TRANSISTOR 2SC634SP
Q213	8-729-117-54	TRANSISTOR 2SA1175
Q214	8-729-117-54	TRANSISTOR 2SA1175
Q215	8-729-117-54	TRANSISTOR 2SA1175
Q216	8-729-117-54	TRANSISTOR 2SA1175
Q217	8-729-600-27	TRANSISTOR 2SC634SP
Q218	8-729-117-54	TRANSISTOR 2SA1175
Q219	8-729-102-04	TRANSISTOR 2SD1020-F
Q220	8-729-178-54	TRANSISTOR 2SC2785
Q221	8-729-201-83	TRANSISTOR 2SC3112
Q301	8-729-100-66	TRANSISTOR 2SC1623
RESISTOR		
R1	1-216-097-00	METAL GLAZE 100K 5% 1/10W
R2	1-216-061-00	METAL GLAZE 3.3K 5% 1/10W
R3	1-216-049-00	METAL GLAZE 1K 5% 1/10W
R4	1-216-097-00	METAL GLAZE 100K 5% 1/10W
R5	1-216-017-00	METAL GLAZE 47 5% 1/10W
R6	1-216-097-00	METAL GLAZE 100K 5% 1/10W
R7	1-216-017-00	METAL GLAZE 47 5% 1/10W
R11	1-216-049-00	METAL GLAZE 1K 5% 1/10W
R12	1-216-097-00	METAL GLAZE 100K 5% 1/10W
R13	1-249-433-11	CARBON 22K 5% 1/4W
R14	1-216-017-00	METAL GLAZE 47 5% 1/10W
R15	1-216-097-00	METAL GLAZE 100K 5% 1/10W
R21	1-216-025-00	METAL GLAZE 100 5% 1/10W
R22	1-216-025-00	METAL GLAZE 100 5% 1/10W
R23	1-216-063-00	METAL GLAZE 3.9K 5% 1/10W
R24	1-216-022-00	METAL GLAZE 75 5% 1/10W
R31	1-216-073-00	METAL GLAZE 10K 5% 1/10W
R32	1-216-097-00	METAL GLAZE 100K 5% 1/10W
R33	1-216-025-00	METAL GLAZE 100 5% 1/10W
R34	1-216-055-00	METAL GLAZE 1.8K 5% 1/10W
R35	1-216-055-00	METAL GLAZE 1.8K 5% 1/10W
R36	1-216-025-00	METAL GLAZE 100 5% 1/10W
R37	1-216-025-00	METAL GLAZE 100 5% 1/10W
R38	1-249-405-11	CARBON 100 5% 1/4W
R39	1-216-105-00	METAL GLAZE 220K 5% 1/10W
R40	1-216-097-00	METAL GLAZE 100K 5% 1/10W
R41	1-216-063-00	METAL GLAZE 3.9K 5% 1/10W
R42	1-216-174-00	METAL GLAZE 100 5% 1/8W
R43	1-216-049-00	METAL GLAZE 1K 5% 1/10W
R44	1-216-041-00	METAL GLAZE 470 5% 1/10W
R45	1-216-049-00	METAL GLAZE 1K 5% 1/10W
R51	1-216-053-00	METAL GLAZE 1.5K 5% 1/10W
R52	1-216-093-00	METAL GLAZE 68K 5% 1/10W
R53	1-216-081-00	METAL GLAZE 22K 5% 1/10W
R54	1-216-097-00	METAL GLAZE 100K 5% 1/10W
R55	1-216-109-00	METAL GLAZE 330K 5% 1/10W

Ref.No	Part No.	Description
R61	1-216-049-00	METAL GLAZE 1K 5% 1/10W
R62	1-216-097-00	METAL GLAZE 100K 5% 1/10W
R63	1-216-017-00	METAL GLAZE 47 5% 1/10W
R64	1-216-073-00	METAL GLAZE 10K 5% 1/10W
R65	1-216-097-00	METAL GLAZE 100K 5% 1/10W
R66	1-216-111-00	METAL GLAZE 390K 5% 1/10W
R67	1-216-061-00	METAL GLAZE 3.3K 5% 1/10W
R68	1-216-043-00	METAL GLAZE 560 5% 1/10W
R69	1-216-049-00	METAL GLAZE 1K 5% 1/10W
R71	1-216-073-00	METAL GLAZE 10K 5% 1/10W
R72	1-247-891-00	CARBON 330K 5% 1/4W
R73	1-249-405-11	CARBON 100 5% 1/4W
R74	1-216-049-00	METAL GLAZE 1K 5% 1/10W
R75	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W
R76	1-216-037-00	METAL GLAZE 330 5% 1/10W
R81	1-249-405-11	CARBON 100 5% 1/4W
R82	1-249-422-11	CARBON 2.7K 5% 1/4W
R83	1-216-017-00	METAL GLAZE 47 5% 1/10W
R84	1-216-009-00	METAL GLAZE 22 5% 1/10W
R85	1-216-049-00	METAL GLAZE 1K 5% 1/10W
R86	1-216-049-00	METAL GLAZE 1K 5% 1/10W
R87	1-216-073-00	METAL GLAZE 10K 5% 1/10W
R88	1-216-073-00	METAL GLAZE 10K 5% 1/10W
R89	1-216-073-00	METAL GLAZE 10K 5% 1/10W
R90	1-216-073-00	METAL GLAZE 10K 5% 1/10W
R91	1-216-073-00	METAL GLAZE 10K 5% 1/10W
R92	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W
R101	1-216-107-00	METAL GLAZE 270K 5% 1/10W
R102	1-216-017-00	METAL GLAZE 47 5% 1/10W
R103	1-216-037-00	METAL GLAZE 330 5% 1/10W
R104	1-216-049-00	METAL GLAZE 1K 5% 1/10W
R105	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W
R106	1-216-089-00	METAL GLAZE 47K 5% 1/10W
R107	1-216-081-00	METAL GLAZE 22K 5% 1/10W
R108	1-216-748-11	METAL GLAZE 39K 5% 1/10W
R111	1-216-097-00	METAL GLAZE 100K 5% 1/10W
R112	1-216-076-00	METAL GLAZE 13K 5% 1/10W
R113	1-216-093-00	METAL GLAZE 68K 5% 1/10W
R114	1-216-073-00	METAL GLAZE 10K 5% 1/10W
R115	1-249-429-11	CARBON 10K 5% 1/4W
R116	1-216-093-00	METAL GLAZE 68K 5% 1/10W
R117	1-216-097-00	METAL GLAZE 100K 5% 1/10W
R118	1-216-037-00	METAL GLAZE 330 5% 1/10W
R119	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W
R121	1-216-111-00	METAL GLAZE 390K 5% 1/10W
R122	1-216-056-00	METAL GLAZE 2K 5% 1/10W
R123	1-216-049-00	METAL GLAZE 1K 5% 1/10W
R124	1-216-049-00	METAL GLAZE 1K 5% 1/10W
R125	1-216-107-00	METAL GLAZE 270K 5% 1/10W
R126	1-249-419-11	CARBON 1.5K 5% 1/4W
R127	1-216-049-00	METAL GLAZE 1K 5% 1/10W
R131	1-216-105-00	METAL GLAZE 220K 5% 1/10W
R132	1-216-113-00	METAL GLAZE 470K 5% 1/10W
R133	1-216-097-00	METAL GLAZE 100K 5% 1/10W
R134	1-216-085-00	METAL GLAZE 33K 5% 1/10W
R135	1-216-105-00	METAL GLAZE 220K 5% 1/10W
R136	1-216-083-00	METAL GLAZE 27K 5% 1/10W
R137	1-216-099-00	METAL GLAZE 120K 5% 1/10W
R138	1-216-121-00	METAL GLAZE 1M 5% 1/10W
R139	1-216-097-00	METAL GLAZE 100K 5% 1/10W
R140	1-216-097-00	METAL GLAZE 100K 5% 1/10W
R141	1-216-121-00	METAL GLAZE 1M 5% 1/10W
R142	1-216-121-00	METAL GLAZE 1M 5% 1/10W
R151	1-216-089-00	METAL GLAZE 47K 5% 1/10W
R152	1-216-089-00	METAL GLAZE 47K 5% 1/10W
R153	1-216-085-00	METAL GLAZE 33K 5% 1/10W
R154	1-216-099-00	METAL GLAZE 120K 5% 1/10W

Ref.No	P
R155	1-
R156	1-
R157	1-
R158	1-
R159	1-
R201	1-
R202	1-
R203	1-
R204	1-
R205	1-
R206	1-
R207	1-
R208	1-
R211	1-
R212	1-
R213	1-
R214	1-

Ref.No	Part No.	Description				
Q16	8-729-100-66	TRANSISTOR 2SC1623				
Q17	8-729-100-66	TRANSISTOR 2SC1623				
Q18	8-729-883-92	TRANSISTOR 2SC2839				
Q19	8-729-883-92	TRANSISTOR 2SC2839				
Q20	8-729-100-76	TRANSISTOR 2SA812				
Q21	8-729-100-66	TRANSISTOR 2SC1623				
Q201	8-729-178-61	TRANSISTOR 2SC2786				
Q202	8-729-178-62	TRANSISTOR 2SC2786-L				
Q203	8-729-200-66	TRANSISTOR 2SK192A				
Q204	8-729-200-66	TRANSISTOR 2SK192A				
Q205	8-729-204-83	TRANSISTOR 2SA1048-GR				
Q206	8-729-218-43	TRANSISTOR 2SK184-GR				
Q207	8-729-178-54	TRANSISTOR 2SC2785				
Q208	8-729-218-43	TRANSISTOR 2SK184-GR				
Q209	8-729-600-27	TRANSISTOR 2SC634SP				
Q210	8-729-102-04	TRANSISTOR 2SD1020-F				
Q211	8-729-117-54	TRANSISTOR 2SA1175				
Q212	8-729-600-27	TRANSISTOR 2SC634SP				
Q213	8-729-117-54	TRANSISTOR 2SA1175				
Q214	8-729-117-54	TRANSISTOR 2SA1175				
Q215	8-729-117-54	TRANSISTOR 2SA1175				
Q216	8-729-117-54	TRANSISTOR 2SA1175				
Q217	8-729-600-27	TRANSISTOR 2SC634SP				
Q218	8-729-117-54	TRANSISTOR 2SA1175				
Q219	8-729-102-04	TRANSISTOR 2SD1020-F				
Q220	8-729-178-54	TRANSISTOR 2SC2785				
Q221	8-729-201-83	TRANSISTOR 2SC3112				
Q301	8-729-100-66	TRANSISTOR 2SC1623				
RESISTOR						
R1	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R2	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R3	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R4	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R5	1-216-017-00	METAL GLAZE	47	5%	1/10W	
R6	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R7	1-216-017-00	METAL GLAZE	47	5%	1/10W	
R11	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R12	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R13	1-249-433-11	CARBON	22K	5%	1/4W	
R14	1-216-017-00	METAL GLAZE	47	5%	1/10W	
R15	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R21	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R22	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R23	1-216-063-00	METAL GLAZE	3.9K	5%	1/10W	
R24	1-216-022-00	METAL GLAZE	75	5%	1/10W	
R31	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R32	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R33	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R34	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W	
R35	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W	
R36	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R37	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R38	1-249-405-11	CARBON	100	5%	1/4W	
R39	1-216-105-00	METAL GLAZE	220K	5%	1/10W	
R40	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R41	1-216-063-00	METAL GLAZE	3.9K	5%	1/10W	
R42	1-216-174-00	METAL GLAZE	100	5%	1/8W	
R43	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R44	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R45	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R51	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R52	1-216-093-00	METAL GLAZE	68K	5%	1/10W	
R53	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R54	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R55	1-216-109-00	METAL GLAZE	330K	5%	1/10W	

Ref.No	Part No.	Description				
R61	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R62	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R63	1-216-017-00	METAL GLAZE	47	5%	1/10W	
R64	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R65	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R66	1-216-111-00	METAL GLAZE	390K	5%	1/10W	
R67	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R68	1-216-043-00	METAL GLAZE	560	5%	1/10W	
R69	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R71	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R72	1-247-891-00	CARBON	330K	5%	1/4W	
R73	1-249-405-11	CARBON	100	5%	1/4W	
R74	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R75	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R76	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R81	1-249-405-11	CARBON	100	5%	1/4W	
R82	1-249-422-11	CARBON	2.7K	5%	1/4W	
R83	1-216-017-00	METAL GLAZE	47	5%	1/10W	
R84	1-216-009-00	METAL GLAZE	22	5%	1/10W	
R85	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R86	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R87	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R88	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R89	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R90	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R91	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R92	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R101	1-216-107-00	METAL GLAZE	270K	5%	1/10W	
R102	1-216-017-00	METAL GLAZE	47	5%	1/10W	
R103	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R104	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R105	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R106	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R107	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R108	1-216-748-11	METAL GLAZE	39K	5%	1/10W	
R111	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R112	1-216-076-00	METAL GLAZE	13K	5%	1/10W	
R113	1-216-093-00	METAL GLAZE	68K	5%	1/10W	
R114	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R115	1-249-429-11	CARBON	10K	5%	1/4W	
R116	1-216-093-00	METAL GLAZE	68K	5%	1/10W	
R117	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R118	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R119	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R121	1-216-111-00	METAL GLAZE	390K	5%	1/10W	
R122	1-216-056-00	METAL GLAZE	2K	5%	1/10W	
R123	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R124	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R125	1-216-107-00	METAL GLAZE	270K	5%	1/10W	
R126	1-249-419-11	CARBON	1.5K	5%	1/4W	
R127	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R131	1-216-105-00	METAL GLAZE	220K	5%	1/10W	
R132	1-216-113-00	METAL GLAZE	470K	5%	1/10W	
R133	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R134	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R135	1-216-105-00	METAL GLAZE	220K	5%	1/10W	
R136	1-216-083-00	METAL GLAZE	27K	5%	1/10W	
R137	1-216-099-00	METAL GLAZE	120K	5%	1/10W	
R138	1-216-121-00	METAL GLAZE	1M	5%	1/10W	
R139	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R140	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R141	1-216-121-00	METAL GLAZE	1M	5%	1/10W	
R142	1-216-121-00	METAL GLAZE	1M	5%	1/10W	
R151	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R152	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R153	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R154	1-216-099-00	METAL GLAZE	120K	5%	1/10W	

Ref.No	Part No.	Description			
R155	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R156	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W
R157	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R158	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R159	1-216-093-00	METAL GLAZE	68K	5%	1/10W
R201	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R202	1-216-031-00	METAL GLAZE	180	5%	1/10W
R203	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R204	1-249-401-11	CARBON	47	5%	1/4W
R205	1-216-121-00	METAL GLAZE	1M	5%	1/10W
R206	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R207	1-216-009-00	METAL GLAZE	22	5%	1/10W
R208	1-216-017-00	METAL GLAZE	47	5%	1/10W
R211	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W
R212	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R213	1-216-031-00	METAL GLAZE	180	5%	1/10W
R214	1-216-099-00	METAL GLAZE	120K	5%	1/10W
R215	1-249-407-11	CARBON	150	5%	1/4W
R216	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R217	1-216-009-00	METAL GLAZE	22	5%	1/10W
R218	1-216-017-00	METAL GLAZE	47	5%	1/10W
R219	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R221	1-216-005-00	METAL GLAZE	15	5%	1/10W
R222	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R223	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R224	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R231	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R232	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R233	1-249-423-11	CARBON	3.3K	5%	1/4W
R234	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R235	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R236	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R237	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R238	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R241	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R242	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R243	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R244	1-249-435-11	CARBON	33K	5%	1/4W
R245	1-216-045-00	METAL GLAZE	680	5%	1/10W
R246	1-216-085-00	METAL GLAZE	33K	5%	1/10W
R247	1-216-021-00	METAL GLAZE	68	5%	1/10W
R248	1-216-298-00	METAL GLAZE	2.2	5%	1/10W
R261	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R262	1-249-433-11	CARBON	22K	5%	1/4W
R263	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R264	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R265	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R266	1-216-085-00	METAL GLAZE	33K	5%	1/10W
R267	1-216-085-00	METAL GLAZE	33K	5%	1/10W
R268	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R269	1-216-041-00	METAL GLAZE	470	5%	1/10W
R270	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R271	1-216-105-00	METAL GLAZE	220K	5%	1/10W
R272	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R273	1-216-085-00	METAL GLAZE	22K	5%	1/10W
R281	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R282	1-216-085-00	METAL GLAZE	33K	5%	1/10W
R283	1-216-095-00	METAL GLAZE	82K	5%	1/10W
R284	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R285	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R286	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R287	1-216-298-00	METAL GLAZE	2.2	5%	1/10W
R301	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R302	1-216-085-00	METAL GLAZE	33K	5%	1/10W
R303	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R304	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R305	1-216-049-00	METAL GLAZE	1K	5%	1/10W